International Journal of Nursing Studies 60 (2016) 69–78

Contents lists available at ScienceDirect

International Journal of Nursing Studies

journal homepage: www.elsevier.com/ijns

Perspectives on barriers and facilitators to self-care in Lebanese cardiac patients: A qualitative descriptive study

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ARTICLE INFO

Article history:
Received 26 June 2015
Received in revised form 9 March 2016
Accepted 11 March 2016

Keywords:
Barriers
Cardiac self-care practices
Cultural values
Facilitators
Socio-political economic instability

ABSTRACT

Background: Cardiovascular disease is the leading cause of mortality worldwide. Cardiac self-care practices are essential for managing cardiac illness and improving quality of life. However, these practices may be affected by factors that may hinder or facilitate self-care especially in countries that experience political and economic instabilities.
Objectives: The purpose of this study was to explore self-care practices among Lebanese cardiac patients. Another aim was to reveal factors that might influence these self-care practices.
Design: This is a qualitative descriptive study.
Setting: Participants were recruited from a referral medical center in Beirut, Lebanon and interviews took place in their homes.
Participants: Purposive sample of 15 adult participants, seven females and eight males, diagnosed with coronary artery disease at least a year ago and not in critical condition recruited from the cardiology clinics of the medical center.
Methods: Data were collected through semi-structured audio-recorded interviews that took place in their places of residents.
Results: Three themes emerged from the data: I. The behaviors of cardiac patients demonstrated selected self-care practices; II. Patients identified barriers to self-care reflective of the Lebanese political and socio-economic situation; and, III. Patients described facilitators to self-care consistent with the Lebanese socio-cultural values and norms. The most common self-care practices included taking medications and eating properly. Participants emphasized avoiding stress and being upset as a self-protective measure for cardiac health. Health care costs, family responsibilities, psychological factors and the country's political situation impeded self-care practices whereas family support facilitated them.
Conclusion: Lebanese patients reported select self-care practices in dealing with their cardiac illness. Barriers and facilitators to their self-care behaviors reflected the Lebanese context and culture. Thus health care providers must assess their patients' practices within their sociocultural context so that interventions to promote self-care are tailored accordingly.

What is already known about the topic?

- Self-care is a key component in the management of chronic conditions.
- Patients' personal characteristics and the health care system may influence self-care practices.

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http://dx.doi.org/10.1016/j.ijnurstu.2016.03.009
0020-7489/

- Socioeconomic status, culture, and political context were less studied as factors that may influence self-care.

What this paper adds

- Family responsibility, healthcare costs, and political conflict and unrest affected self-care practices of cardiac patients.
- Psychosocial factors such as *Za'al* affected cardiac patients actions toward self-care.
- Support from family, mainly wives and children facilitate cardiac self-care.

1. Introduction

Cardiovascular diseases remain the leading cause of mortality worldwide (Ward et al., 2010) and are identified as the primary source of death in most developing countries (Ferrante et al., 2013), thus constituting the main burden of diseases (Dickson et al., 2013). In Lebanon, deaths for all age groups and both sexes from non-communicable diseases account for 85% of total deaths; of those 47% are from cardiovascular diseases (World Health Organization, 2014).

A key element for managing chronic conditions including cardiovascular diseases is self-care (SC) supported by patient and family education (Dickson et al., 2013). Self-care is defined as: "activities that individuals, families, and communities undertake with the intention of enhancing health, preventing disease, limiting illness and restoring health" (WHO, 2011, p. 65–66). Health outcomes are improved when patients take more responsibility for their health behaviors, thus leading to improvement in health-related quality of life (Ludt et al., 2011) and reduction in health care costs (Reeves et al., 2014).

Although SC is a key component in the management of chronic conditions, its implementation is limited by the support provided by the country's chronic disease management programs (Elisson et al., 2013). Hirmas Adauy et al. (2013) reported that the barriers and facilitators to health care access were mainly a reflection of social inequities among countries. Specifically, barriers related mostly to access and acceptability, whereas facilitators reflected personal, social and health service related factors.

In a "Report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines, and the American College of Physicians, American Association for Thoracic Surgery, Preventive Cardiovascular Nurses Association, Society for Cardiovascular Angiography and Interventions, and Society of Thoracic Surgeons" guidelines for the treatment of stable coronary artery disease (pages e393–e395) made recommendations for patient education and self-care (Fihn et al., 2012). Hence raising patients' SC abilities is a vital goal of health care professionals, and can be achieved by developing effective interventions that are theory based and culturally sensitive (Jang and Hyera, 2012). However, there is a need to explore cardiac patients' perceptions of SC practices in order to design effective interventions tailored to their beliefs. Therefore, this study was designed to explore SC practices among Lebanese cardiac patients and related factors.

Self-care is a dynamic process that occurs each time individuals engage in actions to take care of themselves. Moreover, SC is a learned behavior (Orem, 1985), and so its actions are determined by knowledge and resources. Yet knowledge might not always translate into SC behaviors (Bahjati, 2014). Thus the active role of patients is crucial in acquiring and performing SC activities. Influential factors that might affect SC practices should be addressed, including the socio-cultural context, patients' perceptions and beliefs, their ability for SC behaviors, and the role of the family. For instance, Stewart et al. (2013) maintained that religious faith is vital to patients as a coping mechanism in that the spiritual interaction between patients and God provides them with comfort, increase in their treatment adherence and consequently a better quality of life.

Studies of SC practices and related factors are limited in developing countries specifically in coronary artery disease patients. A study of cardiac patients, family members and health care providers in Iran showed that several cultural factors influenced the success of patient education and health behavior. Those factors were: beliefs of patients and families about disease and treatment; concealment of diagnosis from the patient; ineffective communication; and patients' lifestyle (Farahani et al., 2008). Many studies on factors related to SC were done in the heart failure population as noted in a recent meta-synthesis of investigations of barriers and facilitators to SC in chronic heart failure (Siabani et al., 2013). The authors noted that most of the factors studied related to the symptoms, patients' personal characteristics, and the health care system, but socioeconomic status, culture, and political context were less studied as factors that may influence SC. The authors recommended further research on barriers and facilitators to SC in patients with chronic heart failure so that appropriate intervention strategies are designed to improve SC.

Few studies have considered the cultural influence on SC practices in cardiac patients; however, studies in non-cardiac populations can inform cardiac SC. In Sweden, SC among diabetic men from multicultural origins was found to be influenced by their dissimilar beliefs about health and diabetes, thus the authors recommended considering the cultural background in diabetes care (Hjelm et al., 2005). In Costa Rica and Mexico, denial of the presence of the disease, lack of knowledge about symptoms, vertical communication amid providers and patients, and difficulty in adherence to treatment were identified as barriers to SC in patients with diabetes type 2 and hypertension. The identified facilitators included: family and community support, a relative's positive experience with health care, accessible health care services and health provider's guidance (Fort et al., 2013).

The above accounts of SC are based on non-Arab viewpoints; it is not known how these notions would be interpreted in other cultures like the Lebanese. The Lebanese culture is Arab affected by westernization. In a study exploring perception of SC in a Lebanese sample, it was found that "self-care as a concept is not clear in the culture" and family members were heavily involved in the

care of patients (Dumit et al., 2015). Thus the aim of this study was to explore perceptions of SC practices among Lebanese cardiac patients and factors that might influence these practices.

2. Methods

The design for this study was qualitative descriptive. The data was collected through semi-structured individual interviews with a sample of Lebanese patients with coronary artery disease. Qualitative descriptive studies are the design of choice when straightforward description of a phenomenon of interest is sought (Sandelowski, 2000) and where naturalistic inquiry with low inference is needed (Sullivan-Bolyai et al., 2005), such as exploration of cardiac SC practices. Explicit insights of the patients' experiences of cardiac SC practices within the Lebanese culture were prodded for more explanations and interpretations of the participants' behaviors. Interviews were performed in the natural settings of the participants, namely their home, attempting to capture features of these settings and the associated lifestyle practices of the participants.

2.1. Sample and setting

The Institutional Review Board of the university and recruitment site approved the study. We recruited a purposive sample of 15 cardiac patients from a major referral medical center in Beirut, Lebanon. Purposive sampling was used to obtain cases deemed information-rich for the purposes of the study. Participants varied in terms of gender, socio-economic status, religion, educational level, and geographic area of residence. This purposive variation allowed the discovery of the unique SC practices among Lebanese cardiac patients. For example when more than five Muslim patients were interviewed, we started selecting Christian patient volunteers; the same with participants' selection from rural and urban areas. Patients' inclusion criteria included diagnosis with coronary artery disease, age over 30 years, and any gender.

2.2. Procedure

Data were generated through semi-structured digitally audio-recorded interviews to allow patients to describe their cardiac SC practices freely in their own words. The first author developed the interview questions in English since it is the language of the authors' institution. The questions were: (1) Describe your heart problem to me; and (2) How do you take care of yourself? Please give me some examples of things you do. A bilingual person translated these questions into Arabic, the language of the Lebanese participants, and another independent bilingual person blinded to the original English form back translated the Arabic questions into English. The original and back translated questions were semantically equivalent. A panel of three experts evaluated the questions for cultural congruence.

The first author interviewed the participants in Arabic, in their homes upon their request; only two patients asked to be interviewed in the researcher's office. Data saturation was achieved at the 12th interview, however, the interviews continued until the purposive sampling variation was satisfied. The interviews lasted 30–50 min. Immediately after the interviews, the first author transcribed the interviews verbatim, extracted quotes and translated those into English for the purpose of reporting and disseminating. Simultaneous collection and analysis of interview data were performed with reflections on the content and modification of codes when new data arose. A bilingual nurse who is blind to the original transcripts back translated the data codes and quotes into Arabic.

The first author kept all the data such as audio-recordings, transcripts, and consent forms in a locked drawer and password protected computer files.

2.3. Analysis

The first author used qualitative descriptive analysis to summarize the content of the transcripts using data-driven codes, categories, and themes pertaining to cardiac SC practices. Thematic analysis (Braun and Clarke, 2006, cited in Vaismoradi et al., 2013) was followed. The transcripts were read and re-read in order to get immersed in the data and notes were written to get familiarized with the data. Second, initial codes were generated and revised as needed when new data arose; quotes from participant interviews were linked to related codes and translated into English by a bilingual person. Similar codes were sorted and grouped into categories. Categories were assembled into potential themes that were examined for relevance to the codes and the data set. Last, themes were defined and named, and discussed among the authors. The co-authors examined critically the thematic analysis and gave their feedback. Based on the feedback the categories in Theme 1 were revised and agreement on the themes and their categories was established after discussion.

Trustworthiness was enhanced by using data collection and sampling methods appropriate to the research questions. Efforts to bracket during interviews were used to minimize the researcher's bias. Immersion in the data prior to the analysis and seeking feedback from participants regarding the findings and their interpretation to make sure they reflect the meanings expressed by them improved trustworthiness of the study. Rigor was also augmented by the rich and saturated data and frequent discussions with the co-authors.

3. Findings

Table 1 shows the demographic data of the participants. The sample included participants reflecting a balanced representation of the Lebanese population across a broad range of demographic categories. An example is the participants' place of residence, whereby nine live in urban areas, four in suburban areas, and two in rural areas – a typical population distribution in Lebanon. All participants were adults over 30 years of age with coronary artery disease diagnosed more than a year ago who were followed by the same medical institution. Participants' ages ranged from 44 years to 80 years (mean age = 61.6); seven were women and eight were men; 12 were married

Table 1
Demographic characteristics of the participants ($N = 15$).

Characteristics	Number
Gender	
Female	7
Male	8
Marital status	
Married	12
Widow	3
Age in years	
Range	44–80
Mean age	61.6
Educational level	
Illiterate	1
Literate	14
Read and write	7
Middle school	3
High school	I
University	3
Occupation	
Females housewives	7
Males	8
Semi-skilled	2
Skilled manual	1
Clerical	3
Business manager	1
Business man	1
Socio-economic status	
Low	6
Middle	8
High	1
Religion	
Christians	5
Muslim	10
Residential area	
Urban	9
Suburban	4
Rural	2

and three widowed. Six participants reported their socio-economic status as low, eight as middle and one as high. One participant was illiterate, seven participants knew how to read and write; three completed middle school, one completed high school, and three had university education. All the women were housewives, whereas the men's occupation ranged from semi-skilled jobs to business. Six families had dependent children who were at schools or colleges and depended on their fathers [the cardiac patients] who are the sole breadwinners of the family for their educational and daily expenses. Six participants (4 females and 2 males) underwent coronary artery bypass grafting (CABG); and 9 (4 females and 5 males) underwent percutaneous coronary intervention (PCI).

Results of the analysis yielded three themes shown in Table 2 with their associated categories. The themes are: (I) the behaviors of cardiac patients demonstrated selected self-care practices; (II) patients identified barriers to self-care reflective of the Lebanese culture and its political and socio-economic situation; and, (III) patients described facilitators to self-care consistent with the Lebanese socio-cultural values and norms. Descriptions of the findings using pseudonyms for the participants and quotes from the interviews follow. Patients and participants are used interchangeably in reporting the results.

Table 2
Themes and categories of cardiac self-care practices.

Themes	Categories
Theme I: *The behavior of cardiac patients demonstrated selected self-care practices* [Self-care practices]	A. Taking medications B. Eating properly C. Stopping smoking D. Other self-care practices: i. Physical activity and rest ii. Protective measures iii. Avoiding *za'al*[a]
Theme II: *Patients identified barriers to self-care reflective of the Lebanese culture and its political and socio-economic situation* [Barriers to self-care practices]	A. Family responsibility B. Healthcare costs, the economic situation and the political conflict in Lebanon C. Psychosocial factors
Theme III: *Patients described facilitators to self-care consistent with the Lebanese socio-cultural values and norms* [Facilitators to self-care practices]	A. Children roles B. Spouse roles C. Other family members roles

[a] Za'al has several meanings according to the Arabic–Arabic dictionary (Al Munjid, 1993, p. 515): intense anger, dismay, anguish, distress, agony, and sadness.

3.1. Theme I: The behavior of cardiac patients demonstrated selected self-care practices.

The SC behaviors that were consistently reported by the participants were taking medications, eating properly, and stopping smoking. Other practices that were less frequently reported related to observing physical activity and rest, using protective measures, and avoiding *za'al*.[1]

Taking medication. The majority of the participants reported readily taking medications consistently on time throughout the interviews; and several provided descriptions of their processes to ensure compliance with the prescribed medications. For example, Fayez, a 67 year old male who underwent CABG said: "Whatever the doctor says I am executing 100%. I did tests...I am taking medication...whatever the doctor asks to do I am doing thank God...the doctor said to me don't drink Arak [ouzo], I don't." Zeynab, a 63 year old widow who had PCI reported that she keeps her medications near her on the commode because she "may forget" and stated "I count them so that I remember them." Most participants reported taking their medication on time as directed by their cardiologists. Hanneh, an 80 year old lady who did CABG tied taking medication to her life by saying "I don't forget the medication because my life is medication and if I don't take the medication I don't survive."

Eating properly. Participants described changes in their ways of eating in relation to the quality of their meals. The

[1] Za'al has several meanings according to the Arabic–Arabic dictionary (Al Munjid, 1993, p. 515): intense anger, dismay, anguish, distress, agony, and sadness.

major dietary changes that participants reported were decreasing fatty food, using vegetable oil instead of margarine and butter in their meals, and avoiding fried food. After some probing, participants mentioned lowering their intake of salt. Some participants reported eating light meals or eating in small quantities.

Not all patients were instructed by their doctors about the diet they should follow. Sa'eed, a 63 year old male who underwent PCI took action on his own because his doctor did not tell him anything about what he should eat:

> Without having the doctor tell me I immediately stopped fried food, nuts and the like. . .I don't eat fatty food. . .I pay attention to what I eat. Milk products such as cheese, I get it light, I get at times fish, chicken, beef meat I barbecue them without fats, I don't even taste fries. . . Our normal [Lebanese] cooking is healthy.

Hazem, a 51 year old male who underwent CABG, for instance described his typical Lebanese lunch "*Yakhni* [vegetable stew] I eat a little with rice and no bread." He clarified "I eat little sweets so that I do not deprive myself, during the month of Ramadan only, and then I go back to my normal."

Alcohol consumption was mentioned by only a few participants, most of whom talked about decreasing their intake or drinking in moderation. This finding is consistent with Lebanese Muslim and female patients being unlikely to drink alcohol.

Stopping smoking. Six of the participants reported that they used to smoke and had quit smoking since their heart incident. Quitting smoking was among the first things some participants reported as ways to take care of themselves. Walid, a 69 year old male who had CABG stated "I stopped smoking after my surgery [open heart]". Na'eema and Anna, who are both 67 year old females who underwent PCI and CABG respectively reported avoiding places where there are people smoking. It is worth mentioning that we noticed tray of cigarette boxes in some of the participants' houses. A Lebanese tradition is to offer cigarettes with coffee to the visitors the same way they offer juice, candy, and fruits.

Other self-care practices. Walking was the primary exercise identified by certain participants. A few participants reported walking varied distances for half an hour or more. Others stated that they walked when they had time. Few participants reported exercising regularly such as long distance walking and one was working out in a sports club. Some participants identified the need to take rest periods especially when they got tired after physical activity such as walking, cleaning the house, cooking, or working on the job. Women reported taking rest at alternate times when doing their house chores. For example, Na'eema stated that: "Now I am organizing, for instance today I fix [clean] here [living room]; tomorrow the bedrooms and toilettes, you know, because I am not capable to do all together; I rest I lie down [when tired]."

After several attempts of probing, some patients reported various protective measures they used to safeguard their hearts such as keeping warm, avoiding extreme heat and people with communicable diseases such as flu. Only one participant mentioned taking a flu vaccine, and few others reported avoiding visiting or coming in contact with people having flu.

Few participants emphasized being calm and avoiding za'al as a SC practice. They suggested ways to be calm and relaxed by evading situations that lead to za'al and creating a joyful atmosphere. Ala'a, a 50 year old male who had PCI proposed "laughter and having fun" to avoid getting "psychologically tired", sharing how he avoids getting nervous: "if something bothers me, I keep silent and excuse myself out." Ghadi, a 44 year old male who had PCI reported paying attention to his behavior and moods in order not to get za'al and suggested "people should use their minds to avoid rushing into actions that could be harmful". Participants explained that tension and anxiety affect the heart and as such the significance of evading stressful situations.

3.2. Theme II: Patients identified barriers to self-care reflective of the Lebanese culture and its political and socio-economic situation

Family responsibility. Family responsibility which is a social norm and value in the Lebanese culture, was a major concern expressed by patients when asked what it meant to have heart disease. Patients' priorities regarding family needs were either minimally or not at all changed by having cardiac illness. The women's main concern was to make sure that family members' needs were met. The main role of most women in this sample was to do housework including cleaning, cooking, and laundry although the majority of their family members were adults.

Um Abed, a 68 year old widow who underwent CABG, for instance, despite having heart disease at a young age [30 years], continued to maintain her role as a wife and a mother; she gave birth to two children after her first heart operation, and nursed them even with her chest scar as she reported: "I breastfed what I could, this breast [putting her hand on the left breast] had stitches". She underwent heart surgery twice and each time resumed full responsibility for the family following her recovery.

Similarly Na'eema reported carrying on with the responsibilities of cleaning the house and cooking for the family immediately after being discharged. She reported: "When I had the incident the heart [heart disease], afterwards [after getting out of the hospital] immediately to the kitchen, it did not debilitate me or impede me. Never never. Since I was discharged I was in the kitchen."

The main role of the men was to bring money home and ensure sufficient resources are available for the necessities of the family. Considering the economic situation in Lebanon, having a job and making money to secure the needs of the family may be difficult at times as Ghadi said: "If you don't work, you start thinking of your child ok this child needs milk . . . there are house requirements that are necessary to buy no matter what. . .". He reported that he has been admitted several times to the hospital because of his heart incidents. He expressed his concern about securing the necessities for his family because he was the breadwinner. He said, "It affects the whole house in terms of providing the needs of the wife, the mother and

the kids. . .it affects my position [role] in the house family-wise."

Healthcare costs, the economic situation and the political conflict in Lebanon. The economic situation and political instability affected drastically patients' SC practices. When asked what it means to have a heart problem, several participants responded as Ghadi "It means paying for medication and taking medication." All the patients who participated in this study took almost the same type and number of cardiac medications. They were keen to show their medications to the researcher to illustrate this situation. Clopidogrel, an antiplatelet medication prescribed to nearly all the participants, alone costs $100 for a 30-day supply. The average starting salary for a semi-skilled worker in Lebanon is $300 per month. This expense is why Ghadi could no longer afford to buy his medication. He said, "my symptoms (are due to) the lack of medications; there are times I cannot buy my medications." He took his medications irregularly and often skipped the "most expensive one". That act led to repeated hospital admissions and risked his life. Admission to the hospital is fully covered by the Ministry of Health for the Lebanese who do not have any other insurance, but there is no such coverage as outside patients such as for medications. With the little money Ghadi had, he had to make a choice between buying his cardiac medication and securing family needs; he said,

> You [I] start thinking of your [my] child ok this child needs milk, you [I] choose milk and not medication for you [me]. . .there are house requirements that are necessary to buy no matter what, which, you choose over yourself [myself].

Zeynab needed cardiac catheterization with a possibility of balloon angioplasty and stent insertion. Her doctors recommended doing the procedure as soon as possible. She could not do the procedure at the referral center because it was not covered and she did not have the money as she reported; the following was her response to the recommending doctor:

> I told him [doctor] what is [wrong] with me? . . . I told him [doctor] I would want to have you [doctor] do the catheterization [cardiac] for me but as you see two million and four hundred thousand LL [$1,600] there is no way.

The participants who reported not being able to afford the treatment of their cardiac illness were of low socio-economic status and did not have a constant source of income. They made choices at times that could be very detrimental to their health.

The majority of the participants expressed concern about their family members because of the country's political instability and insecurity. They reported that they are always worried about the safety of their loved ones. In addition, the political and economic situation affected the stability of jobs and financing living expenses. The worry and concern augmented their stress and, in turn, affected their SC practice of "calming down and avoiding *za'al*". Participants put their family safety before their own needs for healthcare. Mazen's (47 year old male who had PCI) expression represented the severity of this situation and mirrored the concern of other participants:

> The general conditions that we are living in this country. . .there is no rest. You always have risk concerning your expenses, your income, your safety, or educational burdens for the children, or living burdens or securing living needs and this makes you nervous; this makes a person live in conflict everyday of your life. . .so you cannot avoid za'al.

Psychosocial factors. Za'al, a major psychosocial factor that appeared in the interview data, is an expression that was used repeatedly by most of the patients during their interviews. According to some patients, *za'al* was one of the reasons that caused their heart disease or aggravated it. Na'eema stated that being separated from her children who are overseas because of the lack of job opportunities in the country caused her emotional distress and *za'al* that affected her heart and ability for SC. She reported:

> I have my children – half of them are traveling in foreign countries, I am heartbroken because my children are far away. Our country does not take care of its educated and studious; that is we made from weakness strength and begged to have him [her son] get education, instead of being together, they burnt our heart, he [son] is gone. Also my second one [son] left because he is after his living. I am emotionally [distressed]. . .I cannot [take care of myself].

The patients reported many psychosocial factors that affected their hearts and their actions toward SC. In some instances these factors were related to the country's economic and security circumstances. Physical and financial insecurities such as those reported by the participants are examples of such country's situation.

3.3. Theme III: Patients described facilitators to self-care consistent with the Lebanese socio-cultural values and norms

Facilitators to SC practices were related to family members' support of the participants' SC practices. Families played varied roles in supporting the SC practices of the patients. The children provided actual and emotional support to their sick parents. Wives prepared prescribed meals and medications, and accompanied the patient to the clinic. Husbands gave their wives advice and accompanied them to the clinic. Other family members such as parents and siblings also provided direct and emotional support.

Children's roles in supporting parents. Participants whose family caregivers were their children reported that their daughters and sons provided actual and emotional support.

Children supported their parents directly by helping with house chores [mainly daughters], taking the parent [patient] to the hospital or clinic, getting prescriptions, buying food and medication, and protecting the parent from harm.

Um Abed described repeatedly the assistance she received from her family:

> When I am sick my daughter comes from up there (village) checks on me . . . does the laundry, dish washing,

> cooks for us, and does other chores, sometimes she sleeps over, and other times she leaves her daughter with me, a youngster at school. And my son whatever happens to me, pain and like that, my son tells me we go to the university [hospital], it is the best, and he did not accept to do my operation except in the university [hospital]. Sometimes I go alone [follow up visit] sometimes my son goes with me; last few times he went with me to the clinic.

Several female participants described ways their children supported and helped them during illness and usual days such as: getting the medication prescription every month; helping with house cleaning; paying for in-house maid; daughters, even married ones, staying with their patient every night following surgery or during acute illness episodes; checking on their parents by phone or visitation; and sons sending medications from the US. Other chores children assisted with included cooking, shopping for food, and buying their medications.

Participants reported that their children showed compassion, sympathy, and love toward them by calling and checking on them; being with them during illness; asking them to take care of themselves; and protecting them emotionally from fear and anxiety. Um Abed for example, described that her daughter called her to check on her, wished her good health and urged her to take care of herself. She reported that her son never left her and stayed besides her all the times. Similarly Na'eema described that her children gathered around her when she got sick, showing sympathy and giving emotional support. Most of the other women described similar support from their children, including many stories of children living outside Lebanon who called frequently, feeling bad that they could not be home with their parent during their time of need. They further begged their parents not to work too hard or tire themselves.

As the parents reported the ways in which their children supported them, they continuously verbalized prayers and graces for their children. Consistent with the Lebanese culture, the parents prayed to God to protect their children, asking to keep them in good health and safe from dangers, and bless them with wealth and good luck.

Spousal support. The data revealed that spousal roles of supporting SC practices differed depending on whether the spouse was a husband or a wife. The wives' roles in the care of their sick husbands were multifaceted and directly related to their SC practices. Wives were described by their patient husbands as being essential to their care. Ala'a identified several things he needed from his wife such as preparing his meals, and other things he could manage on his own such as taking his medication. He also reported keeping up with follow-up visits accompanied by his wife "so that she knows what is going on with me." Similarly Ghadi reported that his wife was responsible for preparing his meals, paying extra attention to cook the prescribed meals for him and his mother who also had cardiac illness and diabetes.

Hazem depended on his wife to prepare fat free and salt free meals, and to check and sometimes prepare his medications. Fayez reported that he depended on his wife who "likes to be in charge" for his diet and medications; "the medications are managed by my woman, she prepares them for me", he said. Walid gave a similar account of assistance with cooking and medications by his wife.

Female patients reported their husbands provided some degree of support. The husbands' support role was related to giving their wives advice regarding their SC, accompanying them to the doctor's clinic at times, helping in making treatment decisions, and being concerned for them.

Siham, a 60 year old lady who had PCI reported frequent remarks from her husband related to her health, such as: "Don't put salt [on your food], you had your operation and you are being careless with yourself." Hanneh described her husband's worry about her when she was undergoing the operation: "My husband, he was anxious and could not see in front of him, he was crying". She added that her husband sometimes accompanied her to the doctor's clinic but her daughter drove them because the husband did not drive.

Other family members' roles. Other family members like parents, sisters and brothers, and son-in-law provided direct and emotional support to their sick relatives, including taking them to the doctor; providing emotional/psychological and financial support; and sharing their advice and opinion. Family members participated in making the decision to proceed with surgery on behalf of the patient. They also assisted with buying and sending medications; visiting and checking on their patient; and staying by their side. Um Abed described that her son-in-law carried her to his car and took her to the hospital when she fell sick. Hanneh showed the medications her sister sent her from Australia and a third reported that his niece sent him sweeteners and "special diabetic stuff" from Germany.

Participants also reported the support of their parents during their illness, such as advice and medication reminders. Hazem's parents, brothers, and wife made the heart surgery decision while he was unconscious in the emergency department. Ghadi described the significance of having the support of his brothers and mother in terms of psychological comfort and financial support, saying:

> Mother [tells his brother] 'Did you call your brother, did you go to your brother?' Since we were kids there is love and closeness among the brothers. They [brothers] always check on me that's what is important. My brother calls every day to ask me if I need anything, if I am not feeling well. This gives me psychological support, relaxes my spirits; if you live alone, no one asks about you, you live in isolation. Thank God. . .when things happen to me my brothers take charge for everything. . .I am reassured that if anything happens to me there is someone who will carry me and take me [to the hospital] . . .and stand by me if I need anything even money although all [brothers] are just [barely covering their own financial needs].

A few participants reported their co-workers and employer supporting their' SC behavior. A participant reported that the people she worked for did not let her get tired because they knew she had heart disease. Another

explained that his co-workers helped him quit smoking, telling him it was harmful and reminding him of the connection between smoking and his heart disease.

4. Discussion

Self-care practices in this Lebanese sample reflect the importance placed on medications and diet in managing illness, followed by physical activity and smoking cessation, similar to other populations of patients with cardiac illness. Nevertheless, barriers and facilitators to SC reflected some factors unique to the Lebanese ways of living at the social, cultural and political contexts.

Congruent with the findings of this study, taking medication as prescribed was reported in several studies to be the primary SC behavior undertaken by cardiac patients (Cocchieri et al., 2015; Jaarsma et al., 2013; Macabasco-O'Connell et al., 2008). Karner et al. (2005) considered this practice of "passive reliance on advice and prescriptions" (p. 270) as an external motivator that facilitates behavior change.

The second most frequently reported SC practice was eating properly [prescribed diet], which is similar to the findings by Condon and McCarthy (2006). Moreover, smoking cessation and controlling alcohol intake as SC practices reported in this sample were also documented in other studies (Karner et al., 2005).

Physical activity and rest were reported by participants only after probing by the researcher. This is similar to what Cocchieri et al. (2015) reported that it is easier for heart failure patients to take medication than change their lifestyles. The physical activities were most commonly walking and resting to avoid fatigue and stress on the heart. However, a few patients reported regular exercise. Adherence to exercise was reported to be low among heart failure patients in several studies (Evangelista and Shinnick, 2008; Jaarsma et al., 2013). We noted difficulties in some participants' home surroundings for doing simple exercises such as walking due to the absence of spaces, narrow alleys with speeding cars in urban areas, and unpaved roads in rural areas. The neighborhoods where the majority of the participants live do not have safe spaces for walking and participants might not be able to afford joining exercise programs. Inaccessible green space was reported by Fort et al. as a barrier to SC (2013).

Avoiding *za'al* and staying calm was a SC practice identified by the Lebanese participants, similar to Condon and McCarthy (2006) whose participants reported "global ideas regarding stress management" and used similar terms for managing their stress such as "take it easy" and "ignore it" (p. 43). Similarly, Fort et al.'s (2013) participants reported staying calm and limiting stress as a SC behavior.

With probing, participants mentioned taking protective measures as additional SC behaviors, namely following up with the doctor, keeping warm, avoiding extreme heat, taking a flu shot, and avoiding people with communicable diseases. Jaarsma etal. (2013) reported that taking flu shots were less practiced among heart failure patients in 5 countries of the 15that were compared on SC behavior among this patient population. Keeping doctor's appointments was consistently mentioned by the participants in this and other studies (Macabasco-O'Connell et al., 2008).

The unaffordable healthcare costs made patients choose between securing family needs and buying their cardiac medications; another impediment augmenting their cardiac illness burden. This finding is similar to that of Nakkash et al. (2003), where Lebanese respondents reported that the "bad economic situation was a major perceived barrier to exercising, nonsmoking, and healthy eating habits" (p. 730). Financial constraints or challenges were reported by several investigators as a barrier to SC because of the increased cost of prescribed medications and food (Fort et al., 2013; Kaholokula et al., 2008; Kristofferzon et al., 2007; Macabasco-O'Connell et al., 2008).

Participants described how the country's political situation and insecurity impede their SC practices by causing more nervousness, za'al, and fear of tomorrow. Under such tremendous stress a few tended to smoke or eat more. Za'al and what it leads to in terms of smoking was described by Nakkash et al. (2003) as a barrier for maintaining healthy lifestyle among Lebanese participants.

Family support was a major facilitator of SC in this study. All family members, especially those living with the participant, including spouse or children, participated in providing support and care to him/her. This finding concurs with those of several studies that showed the family was the main source of support for patients (Bidwell et al., 2015; Fort et al., 2013; Karner et al., 2005; Kristofferzon et al., 2007; Sheahan and Fields, 2008), especially those living with the patient. In Lebanon in particular, the family gets very involved in decisions related to health care, and supports their seeking of health services, as found in a study of patients with myocardial infarction (Noureddine et al., 2015). The female role in overseeing healthy diets of family members was found to influence cardiovascular health (Heitman, 2006) and was linked with caring for other family members (Fort et al., 2013). Children provided support to their parents irrespective of their parents' need for that support. Contrary to Condon and McCarthy's (2006) findings, these Lebanese parents did not seem bothered by their children's tendency to be overprotective. Consistent with Lebanese culture and family behaviors, the parents considered their children to be caring and were thankful to them. Moreover, it is a Lebanese custom that daughters help their mothers with house chores whether sick or not, and drive them anywhere necessary including grocery shopping and social visits.

Participants reported that other family members provided actual and emotional support to them. Similarly, Kristofferzon et al. (2007) reported all family members including parents, siblings, grandchildren, nephews and nieces, and daughter/son-in-law participated in the care of their cardiac patients. Several authors demonstrated the significance of family support in SC practices (Dickson et al., 2012; Falk et al., 2007); and Reeves et al. (2014) maintained that "Support for self-management is more meaningfully construed as a collective and networked phenomenon, rather than as a set of individualized actions and behavior" (p. 11). In this study, the supportive role extends beyond the participant's spouse or children to

other family members, reflecting the collectivist nature of the Lebanese culture (Noureddine et al., 2015).

The study has limitations. The sample, being recruited from one medical center, limits transferability of findings despite attempting variation sampling. Moreover, since only one investigator analyzed the data, this may influence the results; however member check and peer debriefing were done to circumvent such bias. Finally, translation of questions may affect the meanings conveyed; however back translation supported the accuracy of translation.

5. Implications for practice and research

Nurses should put more efforts at enhancing SC knowledge and practices among patients with coronary artery disease in order to make sure they are equipped with the needed information to achieve improved comprehensive rather than select SC practices. Nurses need to assess individual self-care impediments and consider the findings in the plan of care especially in the discharge plan, with special regard to alternative resources that can be best used for effective SC practices. Nurses providing care to cardiac patients need to identify those family roles that facilitate and support cardiac SC and integrate family members into the overall plan of care. Significant family members ought to be included when implementing interventions intended to develop and improve SC practices of cardiac patients. "Forms of collaboration between patients and their caregivers" (Lee et al., 2015, p. 592) and dyadic perspective of SC in practice and research (Lyons et al., 2015) should be explored and used accordingly for enhancing SC practices.

There is a need to examine in depth SC practices among patients with coronary artery disease to understand why they perform certain SC practices and overlook others such as exercising regularly so that secondary prevention efforts address these unnoticed behaviors. Exploring motivators, facilitators and barriers to SC is another research area worth considering. Support by family members needs further investigation especially the kind of "dyadic engagement" (Lee et al., 2015) in SC qualitatively and quantitatively to understand the extent to which family support influences cardiac SC practices among the Lebanese patients; and to determine which family roles best facilitate SC practices and which roles might impede them.

6. Conclusion

In summary, patients reported selected SC practices and described several barriers to their SC behaviors, in addition to facilitators consistent with the Lebanese context. Family responsibility, healthcare costs, and the country's political conflict and unrest affected their SC practices. The facilitators related to support from family, mainly wives and children; however, the roles of husbands in care of their wives were not as intense as those of the children and wives. Put into the cultural context of Lebanon's culture, current events, economy, and population, these findings hold significant value in our understanding of SC behaviors in Lebanese cardiac patients.

Acknowledgment

We acknowledge Dr. Rima Afifi for her valuable feedback about the initial qualitative analysis.

Conflict of interest: None declared.

Funding: None declared.

Ethical approval: Ethical approval was given by the American University of Beirut and its Medical Center. Reference number: NUR.NY.01.

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