

Received: 01 March 2014 • Accepted: 23 March 2014

Research

Self-care in Cardiovascular Patients: a Cross-Sectional Study in Hamadan County, the west of Iran

Mari Ataee¹, Touraj Ahmadi-Jouybari¹, Seyyed Nasrollah Hosseini², Elham Ahmadi³, Shohreh Emdadi^{3*}, Maryam Farhadian⁴, Fariba Rasoli³, Abbas Aghaei¹, Mohammad Mahboubi⁵

¹ Clinical Research Development Center, Imam Khomeini Hospital, Kermanshah University of Medical Sciences, Kermanshah, Iran

² Ministry of Health and Medical Education, Tehran, Iran

³ Department of Public Health, School of Public Health, Hamadan University of Medical Sciences, Hamadan, Iran

⁴ Department of Biostatistics, School of Public Health, Hamadan University of Medical Sciences, Hamadan, Iran

⁵ Ph.D in Health Services Administration, Kermanshah University of Medical Sciences, Kermanshah, Iran

*correspondence should be addressed to Shohreh Emdadi, Department of Public Health, School of Health, Hamadan University of Medical Sciences, Hamadan, Iran; Tell: +988118380398; Fax: +988118380026; Email: sh.emdadi@umsha.ac.ir.

ABSTRACT

Cardiovascular disease is the highest rate of mortality in the world; Self-care behaviors in patients with chronic diseases, is critical importance to improve patient quality of life. The aim of this study determined self-care behavior and associated with social support and quality of life between the sample of cardiovascular patients in Ekbatan hospital in Hamadan County, the west of Iran. This cross-sectional study was conducted between 326 cardiovascular patients. Data collections based on interview and were analyzed by SPSS version 21 using bivariate correlations, t-test, and One-way ANOVA statistical tests at 95% significant level. Our result showed the main score of self-care behavior was 33.41 (SD: 8.57). We found the correlation between sex, education, and cardiothoracic surgery with self-care behavior among the participants ($P<0.05$). Take medication as prescribed, and rest during the day were more self-care behavior adherence. Our findings indicated the self-care behavior among cardiovascular patients was low it is necessary to attention this issue in patient's education program.

Key words: Self-care, Cardiovascular Disease, Hamadan

Copyright © 2014 Mari Ataee et al. This is an open access article distributed under the Creative Commons Attribution License.

1. INTRODUCTION

Currently cardiovascular disease is the highest rate of mortality in the world (1), and expected by 2020, about 40 percent of deaths in the worldwide caused by these diseases (2). According to a world health organization report, every year about 1.7 million deaths occurs from coronary heart disease, and predicting in 2020 increased that to 11.1 million (3). Coronary artery disease is one of the main causes of mortality and morbidity in developed countries (4). Several studies conducted in different parts of Iran, unfortu-

nately, represents increased risk factors for these diseases; many factors are involved in causing cardiovascular disease, such as hypertension, high cholesterol, impaired glucose tolerance, smoking, and inactivity (5). Heart disease is major threat for health and also effect on social relationships, occupation and income levels (6). In addition, negatively affected on patient's quality of life (7). That's why nowadays in clinical research related to chronic disease, survey quality of life is more important (8). In another hand, Studies on cardiovascular patients indicates, which they compared with other people have a

less social support (9). Social support known as well as power strongest coping, in time of conflict with stressful situations, and generally, adaptation and coping with chronic illness in the people who have high level of social support are more appropriate (10). On the other hand, lack of health facilities, unavailability of the facilities and increases costs of health care, underling reason to attention to a concept of self-care (11). Adherence to self-care behaviors in patients with chronic diseases, is critical importance and patient could be with learning self-care skills, take an important step to cope with their disease and enhance the quality of life (12, 13). Self-care behavior, can reduce severe symptoms, improve clinical outcomes and reduce the rate of rehospitalization (14). The main aim of this study determined self-care behavior and associated with social support and quality of life among the sample of cardiovascular patients in Ekbatan hospital in Hamadan County, the west of Iran.

2. MATERIALS AND METHODS

This cross-sectional study was conducted on the sample of cardiovascular patients in Ekbatan hospital in Hamadan County, the west of Iran, during 2012. The sample size was calculated at 95% significant level according to the results of a previous study (15), and a sample of 326 was estimated. Of the population of 326, 287 (88%) signed the consent form and voluntarily agreed to participate in the study, which has been approved by the Institutional Review Board at the Hamadan University of Medical Sciences. Questionnaire included four sections that comprised of 46 questions: ten questions for background factors; twelve questions for measured self-care behavior (15); twelve items for measured social support (16); and 12-item short from health survey (17) Prior to conducting the main project, a pilot study was conducted to assess the content validity of the study questionnaires. The pilot study participants were 30 cardiovascular patients, similar to those who participated in the main a study. The pilot study was conducted to obtain feedback about the clarity, length, comprehensiveness, and required completion time of the study questionnaires, as well as collect data to estimate the internal consistency of the measures.

2.1. Demographics

The variables assessed in this study included: age (years), sex (men, women), education level (illiterate, primary school, sec-

ondary school, high school, and academic), marital status (single, married, divorce or dead wife), economic Status (independent, dependent), cardiothoracic surgery (yes, no).

2.2. Self-Care behavior Scale

Self-care behavior was evaluated by the 12-item European heart failure self-care behavior scale (15). Each rated by five response options ranging from 1 (I completely agree) to 5 (I don't agree at all). Examples of the items are: I weigh myself every day.

2.3. Social Support Scale

Social support was evaluated by 12-item standard scale (16). Each item was measured on an ordinal 5-point Likert-type scaling (1 = strongly disagree, 5 = strongly agree). Multidimensional scale of perceived social support, including three scopes (family, friend and other significant). Examples of the items are: There is a special person who is around when I am in need.

2.4. Short from Health Survey Scale

The 12 items in the SF-12 (17), are summarized as two scores: the physical component summary (PCS) and the mental component summary (MCS). In the calculation of the MCS and PCS scores, each item makes a contribution to each score according to a pre-specified weight. Most participants have a low education, thus data collection was based on an interview with them. Data were analyzed by SPSS version 21 using bivariate correlations, t-test, and One-way ANOVA statistical tests at 95% significant level.

3. RESULTS AND DISCUSSION

The mean age of respondents was 58.08 years [95% CI: 56.74, 59.42], ranged from 30 to 79 years. Almost, of participant was men and of them was women. Regarding the educational status: 49.5% (142/287) had in illiterate, 16.4% (47/287) primary school, 18.1% (52/287) secondary school, 11.8% (34/287) diploma, and 4.2% (12/287) were academic education. In addition, 70.4% (202/287) of participants was women and 29.6% (85/287) of them men. Almost 80.1% (230/287) of participants was married, 4.9% (14/287) single and 15% (43/287) of them reported divorce or his wife/husband is dead. About 46.7% (134/287) was reported is independent for economic. Furthermore, 12.2% (35/287) of participant was reported doing car-

diothoracic surgery. In addition, the main score of self-care behavior was 33.41 (SD: 8.57). Based on result 33.1% (95/287) good, 55.7% (160/287) middle, and 11.1% (32/287) was a poor self-care behavior. We found the correlation between same of background variable (such as; sex, education, and cardiothoracic surgery) with self-care behavior among the participants (table 1 and 2).

Table 1. Association between sex, economic status, and cardiothoracic surgery with self-care behavior

Specialty	Variable	Mean	SD	T	P
Sex	Women	32.45	7.59	-2.988	0.003*
	Men	35.71	10.23		
Economic Status	Independent	32.48	7.40	-1.731	0.084
Cardiothoracic	yes	30.62	9.37	-2.066	0.040
Surgery	No	33.80	8.40		

Table 2. Association between education, and marital status with self-care behavior

Specialty	Variable	Mean	SD	95% Confidence Interval for Mean		F	P
Education	Illiterate	34.26	8.86	Lower	Upper	3.563	0.007*
	Primary	34.55	8.35	32.79	35.73		
	School	33.73	6.94	32.10	37.00		
	Secondary	29.94	7.52	31.79	35.66		
	School Diploma	27.41	8.13	27.31	32.56		
	Academic Education			30.26	35.27		
Marital Status	Marital	32.27	8.58	32.16	34.39	1.925	0.148
	Single	37.71	9.06	32.47	42.94		
	Divorce or Dead Wife	32.76	8.13	30.26	35.27		

In addition, bivariate associations between social support, quality of life and self-care behavior was showed in table 3 shows. As can see in table 3, self-care behavior while it was correlated with the social support ($r=0.139$), and quality of life ($r=0.128$).

Table 3. Correlation between social support, quality of life and self-care behavior

Variables	X1	X2
X1. Quality of Life	1	
X2. Social Support	0.308**	1
X3. Self-care Behavior	0.128*	0.139*

*P<0.05, **P<0.01

Finally. Our result (as can see in table 4) showed, among the self care behavior: take medication as prescribed, and rest during the day were more adherence, and get a flu shot every year and exercise regularly lower adherence among the participants.

Table 4. Assesment of the self care behavior items among the participants, n (%)

Self-care Behaviour	1 I completely Agree	2	3	4	5 I don't agree at all
I weigh my self every day.	48(16.7%)	17(5.9%)	82(28.6%)	79(27.5%)	61(21.3%)
If I get short of breath take it easy	155(54%)	35(12.2%)	34(11.8%)	30(10.5%)	33(11.5%)
If my shortness of breath increases, I Contact my doctor or nurse	124(43.2%)	37(12.9%)	30(10.5%)	41(14.3%)	55(19.2%)
If my feet legs become more swollen Than usual, I contact my doctor or nurse	101(35.2%)	30(10.5%)	65(22.6%)	39(13.6%)	52(18.1%)
If I gain 2 Kg in 1 week, I contact my Doctor or nurse.	170(59.2%)	28(9.8%)	38(13.2%)	14(4.9%)	37(12.9%)
I limit the amount of fluids I drink	55(19.2%)	28(9.8%)	58(20.2%)	46(16%)	100(34%)
I take a rest during the day.	189(65.9%)	19(6.6%)	15(5.2%)	18(6.3%)	46(16%)
If I experience increased fatigue, I Contact my doctor or nurse	151(52.6%)	21(7.3%)	56(19.5%)	43(15%)	16(5.6%)
I eat a low salt diet.	86(30%)	7(2.4%)	18(6.3%)	32(11.1%)	144(50.2%)
I take my medication as prescribed	210(73.2%)	14(4.9%)	19(6.6%)	27(9.4%)	17(5.9%)
I take my medication as prescribed.	210(73.2%)	14(4.9%)	19(6.6%)	27(9.4%)	17(5.9%)
I get a flu shot every year.	25(8.7%)	9(3.1%)	52(18.1%)	51(17.8%)	150(52.3%)
I Exercise regularly.	32(11.1%)	27(4.9%)	18(6.3%)	39(13.6%)	171(59.6%)

Self-care, is one of the most important aspects of treatment in patients with heart failure, and self-care training, should be was a part of day programs in hospitals and health centers in these patients (18); The main goal of present study was determined self-care behavior among the sample of Iranian cardiovascular patients, and it's associated with social support and quality of life. Our findings showed the 33.1% of a participant was a good self-care, also the main score of self-care behaviors was 33.41; in this regard, Shojaei *et al* (15), reported only 26% of a patient with heart failure in Tehran had a good self-care behavior. In addition, González *et al* (19), in their study, reported the mean score of self-care behaviors among heart failure patients in Spain was a 24.2 (SD: 7.7). These results, indicates the self-care behaviors in Iranian patients with cardiovascular disease is weak, and need to implementing a training program for them. Healthy lifestyle is more important to maintaining and promotion health. Many of the patients with cardiovascular disease not positively belief toward impact of self-care behaviors on their health, in another hand, unfortunately this patient have a several problems such as, lack of information, physical limitations, emotional problems and other chronic diseases (20). Our findings indicated, among the self-

care behavior: take medication as prescribed, and rest during the day were more adherence, and get a flu shot every year and exercise regularly lower adherence among the participants. These findings are similar to the results reported by Shojaei (15), and Ni (21). In addition, our results show that some of the self-care behaviors such as exercise regularly and low-salt diet it was at a disadvantage, thus it was necessary in patient education more attention to this behavior. Another finding of this study, correlation between self-care behavior and level of education. This finding are similar to the results reported by another study(15, 22). In this context, Rockwell (22), reports higher education, had a power of judging and better decisions for their self-care behaviors. Our finding, correlation between self-care behavior with social support and quality of life. In this regard, Jaarsma *et al* (23), reported training patients improving their self-care behavior can have a positive effect on lifestyle modification, on response to worsening symptoms, and on coping with chronic illness. Furthermore, improving quality of life is commonly recognized as one of the major goals of treatment (24) .

4. CONCLUSION

Overall, our findings showed the self-care behavior among cardiovascular patients was low it is necessary for attention this issue in patient's education program.

ACKNOWLEDGMENT

This article is a part of the research project supported by Hamadan University of Medical Sciences. We would like to thank Deputy of Research of Hamadan University of Medical Sciences for financial support of this study.

AUTHORS CONTRIBUTION

This work was carried out in collaboration between all authors.

CONFLICT OF INTEREST

Authors have declared that no conflict interests exist.

REFERENCES

1. Agheli N, Assefzadeh S, M. R. The prevalence of cardiovascular risk factors among population aged over 30 years in Rasht and Qazvin. The Journal of Qazvin University of Medical Sciences. 2005;9(2):59-65.
2. Shidfar MR, Shojaizadeh D, Hosseini M, Assasi N, F M. Knowledge, Attitude and lifestyle of patients with unstable angina in Mashhad, Iran. Scientific Journal of School of Public Health and Institute of Public Health Research. 2004;2(1):49-61.
3. Abroms WB, R B. The merck manual of cardiovascular geriatric. 4th ed: Rahway, NJ: Sharp Research; 2002.
4. Rahimianfar AA, Sadat Javadi S, Dehghani H, Sareban MT, Akbarzade T, Eslami A, et al. The Effect of Training Booklet on anxiety level of the patient's candidate for coronary artery bypass graft surgery (CABG). Journal of Biology and today's world. 2013;2(10):449-55.
5. Jalali F, Haji Ahmadi M, Hossein Pour M, Angari M, E A. Knowledge, attitude and practice (KAP) of people living in Babol about clinical symptoms and risk factors of coronary artery diseases (CAD). Journal of Babol University of Medical Sciences (JBUMS). 2003;6(1):43-9.
6. Najafi SM, Vahedparast H, Hafezi S, Saghafi A, Farsi Z, YS. V. Effect of self-care education on quality of life in patients suffering from myocardial infarction. International Journal of Computer Communication and Network. 2008;1(1):35-9.
7. Cunningham J, Danese M, Olson K, Klassen P, GM C. Effects of the calcimimetic cinacalcet HCl on cardiovascular disease, fracture, and health-related quality of life in secondary hyperparathyroidism. Kidney international. 2005;68(4):1793-800.
8. Bergmann A, J S. Diabetes: from dietary strategies to pharmacotherapy and disease management. Z Arztl Fortbild Qualitatssich. 2004;98(1):43-5.
9. M Z. Reliability and Validity of the Social Provision Scale (SPS) in the Students of Isfahan University. Iranian journal of psychiatry and clinical psychology. 2009;14(4):439-44.
10. Heiydari S, Salahshorian A, Rafie F, F H. Correlation of perceived social support and size of social network with quality of life dimension in cancer patients. KAUMS Journal. 2008;12(2):15-22.
11. Mohammad Hassani MR, Farahani B, Zohour AR, Sh PA. Self-care ability based on Orem's theory in individuals with coronary artery disease. Iranian Journal of Critical Care Nursing. 2010;3(2):87-91.
12. Tolijamo M, M H. Adherence to self-care and social support. J Clin Nurs. 2001;10(5):618-27.

13. Jovicic A, Holroyd-Leduc JM, SE S. Effects of self-management intervention on health outcomes of patients with heart failure: a systematic review of randomized controlled trials. *BMC Cardiovascular Disorders*. 2006;6(43):1-8.
14. R G. Self-care practices in woman with diastolic heart failure. *Adv Clin Care*. 2006;35(1):9-19.
15. Shojaei F, Asemi S, Najaf Yarandi A, F H. Self- care behaviors in patients with heart failure. *Payesh*. 2009;8(4):361-9.
16. Mitchell JC, GD Z. Psychometric properties of multidimensional Scale of perceived social support in urban adolescents. *Am J Community Psychol* 2000;28(3):391-400.
17. Selim AJ, Rogers W, Fleishman JA, Qian SX, Fincke BG, Rothendler JA, et al. Updated US population standard for the Veterans RAND 12-item Health Survey (VR-12). *Quality of Life Research*. 2009;18(1):43-52.
18. Shojafard J, Nadrian H, Baghiani Moghadam M, Mazlumi Mahmudabad S, Sanati H, M AS. Effects of an educational program on self-care behaviors and its perceived benefits and barriers in patients with Heart Failure in Tehran. *Payavard*. 2009;2(4):43-55.
19. González B, Lupón J, Parajón T, Urrutia A, Urrutia A, Herreros J, et al. Use of the European Heart Failure Self-care Behaviour Scale (EHFScBS) in a heart failure unit in Spain. *Revista Española de Cardiología (English Edition)*. 2006;59(2):166-70.
20. Riegel B, B C. Facilitators and barriers to heart failure self-care. *Patient Education and Counseling*. 2002;46(4):287-95.
21. Ni H, Nauman P, Burgess D, Wise K, Cris Pell K, RE H. Factors influencing knowledge of and adherence to self-care among patient with heart failure. *Archives of Internal Medicine* 1999;159(1):1613-9.
22. Rockwell JM, B R. Predictor of self-care in persons with heart failure. *Heart & Lung: The Journal of Critical Care*. 2001;30(1):18-25.
23. Jaarsma T, Halfens R, Abu-Saad HH, Dracup K, Gorgels T, Van Ree J, et al. Effects of education and support on self-care and resource utilization in patients with heart failure. *European Heart Journal*. 1999;20(9):673-82.
24. Jaarsma T, Halfens R, Tan F, Abu-Saad HH, Dracup K, J D. Self-care and quality of life in patients with advanced heart failure: the effect of a supportive educational intervention. *Heart & Lung: The Journal of Acute and Critical Care*. 2000;29(5):319-30.