

The Roll of Social Support on Specific Quality of Life in Patients with Angina Pectoris

Leila Rouhi-Balasi^{1,2}, Ezzat Paryad^{1*} and Arsalan Salari³

¹Social Determinants of Health Research Center, Guilan University of Medical Sciences, Rasht, Iran; ²Student Research Committee, Department of Nursing, Faculty of Nursing And Midwifery, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran; ³Cardiovascular Diseases Research Center, Department of Cardiology, Heshmat Hospital, School of Medicine, Guilan University of Medical Sciences, Rasht, Iran

Corresponding author:

Ezzat Paryad,
Cardiovascular Diseases Research
Center, Department of Cardiology,
Heshmat Hospital, School of Medicine,
Guilan University of Medical Sciences,
Rasht, Iran,
Tel: 0911358819;
E-mail: e_paryad@gums.ac.ir

Abstract

Background: Patients with angina pectoris have poor quality of life. This study was done to detect the social support effect on quality of life in patients with angina pectoris symptoms. **Materials and Methods:** In this comparative descriptive analytical study, 106 patients with angina pectoris were studied; 48 patients with low level and 58 patients with high level social support. Gathering data was done by the Iranian version of Seattle angina questionnaire, social support questionnaire and social readjustment rating scale. **Results:** Findings showed the mean score of Seattle angina questionnaire was 50.32 ± 17.65 and for social support was 50.32 ± 18.3 . The majority of samples had desired score for perceived stress over the past year. Multiple liner regression showed any one of items could not predict quality of life in high level social support patients, but this model showed in patients with low and high social support only perceived stress is predictor of quality of life. **Conclusion:** It is obvious stress can effect on all aspect of life and decrease quality of life in each person especially in patients with coronary artery disease.

Keywords: Social support; Quality of life; Angina pectoris; Patients

Introduction

Coronary artery disease is the most common cardiac disease and a cause of death in the entire world. ^[1,2] This disease is a one of the most expensive disease in the world. ^[3] American Heart Association (AHA) says one of each 3 American will catch coronary artery disease to 2020 ^[4] and based on published reports of Iranian health ministry, 93.3% of all death in Iran is related to CAD. ^[1] Angina pectoris is a common symptom of coronary artery disease ^[5,6] that was shown by sense of pain in thoracic cage. ^[7] The ability to perform Activity of Daily Living (ADL) in patients with angina decreases while fear and anxiety increase. ^[5] These patients disability can effect on their quality of life. ^[5,6,8,9] Based on findings from some studies, patients with angina pectoris experience physical, emotional and social disability in their life. ^[10-13] This point emphasizes on social support importance for these patients, ^[14,15] because sufficient social support for these patients can effect on their ability and quality of life. ^[16] In other words, inadequate social support can reduce the quality of life and the well-being of these patients. ^[17] Reducing the quality of life and feeling the health of the patient exacerbate the signs and symptoms of coronary artery disease and consequently the number of hospital admissions in the treatment centers increases. ^[18] Different studies showed different variables related to quality of life in these patients. ^[12,18-20] Social support is a one of these factors. ^[20,21] Because the social support provided to patients with chronic diseases varies from country to country, it is necessary to examine the status of social protection for these patients in different cultures and countries and their impact on quality of life.

Objectives

This study was done to detect the social support effect on quality of life in patients with angina pectoris symptom.

Materials and Methods

In this comparative descriptive analytical study, the quality of life of patients with angina pectoris has been studied in two groups of patients with high and low social support. Randomized sampling was done based on random numbers table. The first patients with angina pectoris was entered in study and with K interval, other patient was entered based on inclusion criteria. Sample size for each group (with low and high level of social support) was calculated by results of Bucholz study ^[16] and by 80% power of test and $p < 0.05$ (standard deviation of quality of life score in 2 group were 12.3 and 12.1). By the way at least 48 sample was detected in each group. The criteria for entry into the research include the ability to speak Persian, having angina pectoris symptoms and symptoms at least a month ago, having no history of psychiatric disorders, and satisfaction to participate in the research.

106 patients with angina pectoris were entered in study, 48

This is an open access article distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.

How to Cite this Article: Rouhi-Balasi L, et al. The Roll of Social Support on Specific Quality of Life in Patients with Angina Pectoris. *Ann Med Health Sci Res.* 2018;8:44-47

patients with low level social support and 58 patients with high level social support.

The tool of this study was a questionnaire with four sections. First section was about socio-demographic data, the second part was Iranian version of Seattle angina questionnaire that determined the score of specific quality of life in patient with angina pectoris. The third section was social support questionnaire and the last section was Social Readjustment Rating Scale (SRRS). Questionnaire validity was confirmed by content validity. By the way in first step social support questionnaire and SRRS offered to 10 nursing instructor and clinical nurse. They filled Content Validity Ratio (CVR) and Content Validity index (CVI) detecting form of questionnaires. The CVR and CVI score for two questionnaires were above 80%. Cronbach's alpha coefficient test was used to detecting internal consistency of questionnaires and α was 0.9. Psychometric study for Seattle angina questionnaire was done in Iran and it did not need to validity and reliability detecting.

Gathering data was done from the first day of May to last day of September in 2015. In this time, based on inclusion criteria 106 patients entered in study.

Data analysis was done by descriptive and inferential statistics (independent T test, Pearson and ANOVA) in SPSS version 16. Kolmogrove Smirnov test was used to detect normal distribution of data. Quality of life predictors were determined by multiple liner regression models.

Ethical considerations

Data collection was carried out after approval by the Ethics Committee of Guilan University of Medical Sciences and obtaining a code of ethics. Patients with angina pectoris who were admitted to the heart wards due to exacerbation of symptoms and signs of their disease were investigated using random sampling method. After the introduction of the researcher, the research objectives and signature of the informed consent by the patient, all the terms of the instrument were read by the researcher for the research samples and their opinion was recorded in the questionnaire.

Results

The findings of this study showed mean age of samples was 64.5 ± 10.83 . Other socio-demographic data was summarized in Table 1. Other findings showed the mean score of Seattle angina questionnaire was 50.32 ± 17.65 and social support was 50.32 ± 18.3 . The majority of samples had desired score for perceived stress over the past year. The score of quality of life, perceived stress events separately in two group of study (with low and high level of social support) is in Table 2. Independent T test showed in group with high level of social support only sex had significant relationship with quality of life score ($p < 0.05$). ANOVA was used to declare the relationship level social support to quality of life score and perceived stress. This test showed low level social support had significant relationship to quality of life score and perceived stress ($p < 0.05$). After that

multiple liner regression was done to predict effective factors on quality of life in patients with angina pectoris. All of factors had relationship with quality of life with $p < 0.2$ entered in model. The findings showed that none of the variables in the high social support group could predict the quality of life [Table 3], but in patients with low and high social support showed only perceived stress was predictor of quality of life [Table 4].

Table 1: Distribution of subjects according to demographic factors.

| Characteristics | Frequency | Percent | Frequency | |
|--|--------------------------|-----------------------|-----------|------|
| | | | | |
| Gender | Male | 70 | 66 | |
| | Female | 36 | 34 | |
| Marital Status | Single | 1 | 0.9 | |
| | Married | 91 | 85/8 | |
| | Widow | 14 | 32.2 | |
| Education | Illiterate | 46 | 43.4 | |
| Attainment | Following Diploma | 47 | 44.3 | |
| | Diploma | 11 | 10.4 | |
| | College | 2 | 1.9 | |
| Familial History of Heart Disease | Yes | 42 | 39.6 | |
| | No | 64 | 60.4 | |
| History of High Blood Pressure Disease | Yes | 59 | 55.7 | |
| | No | 47 | 44.3 | |
| History of DM | Yes | 38 | 35.8 | |
| | No | 68 | 64.2 | |
| History of HLP | Yes | 47 | 44.3 | |
| | No | 59 | 55.7 | |
| History of Other Context Disease | Yes | 35 | 33 | |
| | No | 71 | 67 | |
| History of MI | Yes | 29 | 27.4 | |
| | No | 77 | 72.6 | |
| History of Angiography | Yes | 84 | 79.2 | |
| | No | 22 | 20.8 | |
| History of Angioplasty | Yes | 38 | 35.8 | |
| | No | 68 | 64.2 | |
| History of CABG | Yes | 14 | 13.3 | |
| | No | 92 | 86.8 | |
| Duration of Angina | Less Than 1 years | 52 | 49.1 | |
| | 1-2 Year | 14 | 13.2 | |
| | More Than 2 years | 40 | 37.7 | |
| Living Conditions | Alone | 10 | 9.4 | |
| | With Spouse | 28 | 26.4 | |
| | With Spouse and Children | 62 | 58.5 | |
| | With Children | 6 | 5.7 | |
| Job | Retired | 16 | 15.1 | |
| | Worker | 3 | 2.8 | |
| | Clerk | 3 | 2.8 | |
| | Farmer | 25 | 23.6 | |
| | Free | 10 | 9.4 | |
| | Housewife | 35 | 33 | |
| | Unemployed | 14 | 13.2 | |
| | Other | 13 | 12.3 | |
| | Residence Area | City | 49 | 46.2 |
| | | Village | 57 | 53.8 |
| Income | Mean \pm SD | | | |
| | | 6060000 \pm 5730000 | | |

Table 2: The status of quality of life, perceived stress events in two group.

| Groups | Variables | Low level of social support | Low level of social support | Test results |
|-------------------------|--------------|-----------------------------|-----------------------------|------------------------|
| Quality of Life | | 50.09 ± 18.85 | 50.56 ± 16.86 | T-test P<0.908 |
| Perceived stress events | First level | 29 (60.4%) | 46 (79.3%) | χ ² P<0.032 |
| | Second level | 16 (33.3%) | 12 (20.7%) | |
| | Third level | 3 (6.3%) | 0 | |

Table 3: Regression coefficients of factors associated with quality of life in the patients with low social support based on multiple logistic model.

| Related factors of quality of life | β | SE | P value | (odd ratio) | Confidence interval <Mean | int erval >Mean |
|--|--------|--------|---------|-------------|------------------------------|--------------------|
| (Constant) | 48.867 | 16.720 | 0.006 | | 14.989 | 82.744 |
| sex | -4.526 | 5.347 | 0.403 | -0.150 | -15.359 | 6.308 |
| History of high blood pressure disease | 5.938 | 5.260 | 0.266 | 0.200 | -4.720 | 16.596 |
| History of DM | 3.241 | 4.515 | 0.477 | 0.110 | -5.908 | 12.389 |
| History of other context disease | -4.325 | 4.739 | 0.367 | -0.145 | -13.927 | 5.277 |
| History of angioplasty | 4.858 | 4.836 | 0.322 | 0.169 | -4.940 | 14.656 |
| Duration of angina | 3.468 | 2.221 | 0.127 | 0.224 | -1.032 | 7.968 |
| Perceived stress events | -4.161 | 5.373 | 0.444 | -0.121 | -15.047 | 6.726 |
| Ejection fraction | -0.212 | 0.188 | 0.268 | -0.178 | -5.93 | .170 |

Table 4: Multiple liner regression model in patient with low and high social support.

| Related factors | β | SE | P value | (odd ratio) | Confidence interval <Mean | Confidence interval >Mean |
|-------------------------|--------|--------|---------|-------------|------------------------------|------------------------------|
| (Constant) | 36.164 | 12.178 | 0.004 | | 11.904 | 60.424 |
| sex | -4.391 | 3.800 | 0.252 | -0.138 | -11.961 | 3.180 |
| History of DM | 4.488 | 3.172 | 0.161 | 0.147 | -1.831 | 10.806 |
| Marital status | -.135 | 4.543 | 0.976 | -0.003 | -9.185 | 8.915 |
| Education level | 3.772 | 2.319 | 0.108 | 0.186 | -0.847 | 8.392 |
| Living status | 3.624 | 2.067 | 0.084 | 0.185 | -0.494 | 7.743 |
| Perceived stress events | -7.968 | 3.138 | 0.013 | -0.273 | -14.219 | -1.717 |

Discussion

Based on the findings of this study quality of life in 2 groups with low and high social support did not have significant difference. This finding is not similar to finding of Heidari et al.'s study.^[22] It seems weight of social support is not enough to support patients with angina pectoris and the level of social support has not been predictive of quality of life, either in a group that has a high level or who has a low level of living. It should be noted that Heidari et al.'s study on determining the relationship between quality of life and social support in cancer patients has been carried out. Considering the difference in the community, we may find different findings in our study and Heidari's study.^[22] Social support is a general term and consists of multiple factors. In different countries based on socioeconomic status, there are different viewpoints about social support and volume of support services is different based on this viewpoint. Thus the meaning of social support may different in different society. Social support is dependent to cultural situation and the level of relationship between people in different culture is different. It seems we need to plan a specific social support tool for each culture and our questionnaire cannot show exactly patients social support exactly. In our study, we used a questionnaire to detect social support that made in other country and many of its items may not applicable in our country, or maybe it needs to revise based on our culture. It should also be noted that understanding social

protection varies from person to person and is a very subjective phenomenon. The lack of relevance to the quality of life in the present research may be due to a different understanding of individuals from the precise meaning of social support. We chose our samples by randomized sampling method, though it seems repetition of this study with another tools can show effect of social support on quality of life in patient with cardiac symptom. The answer to the questions may not be appropriate at the patient's bedside and the patient has not been adequately focused and this has affected the responses.

Other findings showed in patients with high social support only sex had significant effect on quality of life and the score of quality of life in men was higher than women. In Heshmati and Kristofferzon study, findings showed men had better quality of life score than women.^[23,24] In this study, we asked the patients how much support they had get from others and men's jobs and social situation may influence on this finding. They have greater communication and it may cause their better score of quality of life and social support. The majority of our female patients didn't have any job and it may effect on our findings.

Conclusion

We found only perceived stress influenced on quality of life score, after assessing quality of life score in each low and high social support. It is obvious stress can effect on all aspect of life

and decrease quality of life in each person especially in patients with coronary artery disease. Our findings are similar to Nohi study that showed stress influenced on quality of life in patients with coronary artery disease.^[25]

We did not have a psychometric social support questionnaire that conforms to Iranian culture, thus a foreign tool was used. This questionnaire can effect on our findings. We think in conditions that social support is not enough, care delivery team and rehabilitation system can help to patients to achieve support in better manner.

Acknowledgments

Researchers offer their thanks to social determinants of health research center (SDHRC) in Guilan University of Medical Sciences for supporting of this research.

Conflict of Interest

All authors disclose that there was no conflict of interest.

References

1. Daei M, Zeighami R, Arjeini Z, Alipour Heidari M. The effect of continuous care model on quality of life of patients after coronary angioplasty in Bou Ali Sina hospital. *Journal of Evidence-based Care*. 2014;4:61-70.
2. Fiabane E, Giorgi I, Candura S, Argentero P. Psychological and work stress assessment of patients following angioplasty or heart surgery:Results of 1-year follow-up study. *Stress Health*. 2014;31:393-402.
3. Bazargani R, Besharat M, Ehsan B, Nejatian M, Hosseini K. The efficacy of chronic disease self-management program and Tele-health on adherence by increasing self-efficacy in patients with CABG. *Procedia-Social and Behavioral Sciences*. 2011;30:817-821.
4. Aminian Z, Mohammadzadeh S, Eslami-Vaghar M, Fesharaki M. Effectiveness of teaching ways to deal with stress on quality of life in patients with acute coronary syndrome admitted to hospitals of Tehran University of Medical Sciences in 2013. *Medical Sciences Journal of Islamic Azad University, Tehran Medical Branch*. 2014;24:168-174.
5. Taheri Z, Kharamé Z, Heravi-Karimooi M, Rejeh N, Montazeri A, Hajizadeh E. Quality of life in angina pectoris patients:Assessing with the Seattle Angina Questionnaire (SAQ). *Iran J Crit Care Nurs*. 2014;7:124-131.
6. Taheri Kharamé Z, Heravi-Karimooi M, Rejeh N, Hajizadeh E, Montazeri A. Translation and validation study of the Iranian version of Seattle Angina Questionnaire. *Journal of the Iranian Institute for Health Sciences Research*. 2013;12:79-87.
7. McGillion M, Sheila O, Carroll SL, Victor JC, Cosman T, Cook A, et al. Impact of self-management interventions on stable angina symptoms and health-related quality of life:A meta-analysis. *BMC cardiovascular disorders*. 2014;14:14.
8. Young JW, Melander S. Evaluating symptoms to improve quality of life in patients with chronic stable angina. *Nursing Research and Practice*. 2013.
9. Muhlestein JB, Grehan S. Ranolazine reduces patient-reported angina severity and frequency and improves quality of life in selected patients with chronic angina. *Drugs in R&D*. 2013;13:207-213.
10. Andréll P, Ekre O, Grip L, Währborg P, Albertsson P, Eliasson T, et al. Fatality, morbidity and quality of life in patients with refractory angina pectoris. *International Journal of Cardiology*. 2011;147:377-382.
11. Kimble LP, Dunbar SB, Weintraub WS, McGuire DB, Manzo SF, Strickland OL. Symptom clusters and health-related quality of life in people with chronic stable angina. *Journal of Advanced Nursing*. 2011;67:1000-1011.
12. Dueñas M, Salazar A, Ojeda B, Failde I. Health related quality of life in coronary patients:INTECH Open Access Publisher;2012.
13. Borrás X, Garcia-Moll X, Gómez-Doblas JJ, Zapata A, Artigas R. Stable angina in Spain and its impact on quality of life. The AVANCE registry. *Revista Española de Cardiología (English Edition)*. 2012;65:734-741.
14. Pedersen SS, Middel B, Larsen ML. The role of personality variables and social support in distress and perceived health in patients following myocardial infarction. *Journal of Psychosomatic Research*. 2002;53:1171-1175.
15. Barth J, Schneider S, Von Känel R. Lack of social support in the etiology and the prognosis of coronary heart disease:a systematic review and meta-analysis. *Psychosomatic Medicine*. 2010;72:229-238.
16. Bucholz EM, Strait KM, Dreyer RP, Geda M, Spatz ES, Bueno H, et al. Effect of low perceived social support on health outcomes in young patients with acute myocardial infarction:Results From the VIRGO (Variation in Recovery:Role of Gender on Outcomes of Young AMI Patients) Study. *Journal of the American Heart Association*. 2014;3:e001252.
17. Abedi H, Yasaman-Alipour M, Abdeyazdan G. Quality of life in heart failure patients referred to the Kerman outpatient centers, 2010. *J Shahrekord Univ Med Sc* 2011;13:55-63.
18. Seyam S, Heidarnia A, Tavafian S. Quality of life and factors related to it in cardiovascular patients after heart surgery. *Journal of Birjand University of Medical Sciences (supplementary:cardiovascular)*. 2013;19:33-41.
19. Rahnavard Z, Zolfaghari M, Kazemnejad A, Hatamipour K. An investigation of quality of life and factors affecting it in the patients with congestive heart failure. *Hayat*. 2006;12:77-86.
20. Staniute M, Brozaitiene J, Bunevicius R. Effects of social support and stressful life events on health-related quality of life in coronary artery disease patients. *Journal of Cardiovascular Nursing*. 2013;28:83-89.
21. Cheraghi M, Dolatabadi ED, Salavati M, Moghimbeigi A. Association between perceived social support and quality of life in patients with heart failure. *Iran Journal of Nursing (IJN)*. 2012;25:21-31.
22. Heiydari S, Salahshorian A, Rafie F, Hoseini F. Correlation of perceived social support and size of social network with quality of life dimension in cancer patients. *Feyz Journals of Kashan University of Medical Sciences*. 2008;12.
23. Heshmati R, Hatami J, Bahrami Ehsan H, Sadeghian S. The effect of the biological status of CAD patients on health related quality of life:the mediating role of illness representations. *J Res Behave Sci* 2014;12:328-341.
24. Kristofferzon M-L, Löfmark R, Carlsson M. Perceived coping, social support, and quality of life 1 month after myocardial infarction:a comparison between Swedish women and men. *Heart & Lung: The Journal of Acute and Critical Care*. 2005;34:39-50.
25. Nohi E, Abdolkarimi M, Rezaeian M. Quality of life and its relationship with stress and coping strategies in coronary heart disease patients. *Journal of Rafsanjan University of Medical Sciences*. 2011;10:127-137.