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Association between the Quality of Marital Relationship and Marital Stress in Patients with Ischemic Heart Disease

Mohammad Heidari¹⁽ⁱ⁾, Leila Ghanbari Afra^{2*}⁽ⁱ⁾, Mahsa Haji Mohammad Hoseini³⁽ⁱ⁾, Sara Amaniyan⁴⁽ⁱ⁾, Monireh Ghanbari Afra¹⁽ⁱ⁾

¹ Qom University of Medical Sciences, Qom, Iran

² Faculty of Nursing and Midwifery, Kashan University of Medical Sciences, Kashan, Iran

³ Faculty of Paramedical Sciences, Department of Emergency Medicine, Qom University of Medical Sciences, Qom, Iran

⁴ Faculty of Nursing and Midwifery, Semnan University of Medical Sciences, Semnan, Iran

* *Corresponding author:* Leila Ghanbari Afra, Faculty of Nursing and Midwifery, Kashan University of Medical Sciences, Kashan, Iran. Tel: 09128548438; Fax: 02537713471; Email: ghanbari.afra91@yahoo.com

Article Info ABSTRACT Article type: Background and Aim: Marital relationship is a multi-dimensional relationship, Original article which is affected by many factors, such as psychological, individual, and social parameters. Satisfaction with a sexual relationship can cause the strength of the family, as well as both physical and mental health. Therefore, this study aimed to investigate the association between the quality of marital relationships and marital stress in patients with ischemic heart disease. Article History: Materials and Methods: This cross-sectional study was performed on 300 Received: 05 January 2020 patients with acute coronary syndrome two months after being admitted to the Revised: 05 February 2020 Cardiac Angiography Unit at Shahid Beheshti Hospital, Qom, Iran, during 2016. The Accepted: 08 February 2020 patients were selected using a convenience sampling method. Moreover, the data were collected through demographic characteristics form, clinical data questionnaire, as well as marital quality, and Stockholm marital stress scales. The Kevwords: data were then analyzed in SPSS software (version 13) through central indices, Coronary artery disease Pearson correlation test, and multiple linear regression. Marital relationship **Results:** The mean age of the patients was 65.95±5.06 years. Moreover, the mean Marital stress values of the quality of marital relationships and marital stress were 54.36±9.4 and Marriage 3.56±0.05 respectively. The Pearson correlation coefficient showed a significant Psychological stress negative correlation between the quality of marital relationship scores and marital stress scores (r=-0.718). Furthermore, the results of linear regression analysis revealed that there was a significant relationship between the quality of the marital relationship and marital stress after removing the effects of intervening variables (P=0.001, R²=59%). **Conclusion:** The results showed that patients with acute coronary syndrome had favorable marital relationships and low levels of marital stress. Moreover, a reduction in marital stress improved the quality of the marital relationship. Therefore, it is recommended that nurses pay attention to education regarding marital stress management in patients with ischemic heart disease.

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Introduction

Nowadays, ischemic heart disease (IHD) is one of the most popular known diseases all over the world (1). Ineffective coping with IHD and its associated problems may impair patients' physical and mental abilities (2). Psychological problems, such as depression, anxiety, stress, and fear about developing new myocardial infarction or suffering death can also cause dysfunction in these people (3-5). According to evidence, it is also among the factors that can negatively affect the quality of marital relationships as a debilitating condition, which causes different physical and psychosocial problems (2).

The quality of marital relationships is a

multidimensional concept including various dimensions of couples' relationships, such as sexual satisfaction, adaptation. happiness, coherence, and commitment (6). However, in patients with IHD, the quality of marital relationships may be disturbed due to their fear and confusion about the consequences of the disease. This situation can cause a reduction of satisfaction, couples' intimacy reduction, and avoidance from social activities (7-11). Based on the evidence, the frequency of sexual relationships among patients with IHD is reduced by 40% to 70% (12). Consequently, the lack of satisfaction with marital relationships can lead to an increase in the divorce rate (13).

On the other hand, anxiety and stress can worsen the prognosis of IHD (14). In this regard, marital stress is one of the initial resources of stress for many adults that can lead to three times increased risk of a recurrent heart attack within the next 5 years (15, 16). The results of a study by Story and Bradbury showed that stress in couples was a phenomenon influencing the quality of the relationship (17). Moreover, Sohrabi et al. demonstrated a negative meaningful relationship between stress and marital satisfaction among females (18).

Despite the importance of this issue, there is a dearth of research investigating the quality of the marital relationship and marital stress in the literature; moreover, no clear evidence has revealed this association. Therefore, this study aimed to mainly focus on the association between marital stress and the quality of marital relationships in patients with IHD.

Materials and Methods

This cross-sectional correlational study was conducted in 2016. The study population was all the patients with IHD who had been admitted to the Cardiac Angiography Unit at Shahid Beheshti Hospital, Qom, Iran. The sample size was determined at 294 patients using the results of a local study (P=92.6, d=0.03, Z=1.96) with Cochran formula; however, a convenience sample of 300 patients with IHD was drawn for more confident (12).

The inclusion criteria were: 1) married status, 2) willingness to participate in the study, 3) Iranian nationality, 4) lack of any known mental problems, 5) ability to answer researchers' questions and speak Persian, 6) no previous history of hospitalization due to cardiac problems, and 7) patients' discharge maximally three days after hospitalization. On the other hand, the patients who wanted to withdraw from the study, and those who wanted to be re-hospitalized, or faced death after discharge and before completing the study

questionnaire were excluded from the study.

The data were collected using the Revised Dyadic Adjustment Scale (RDAS), Stockholm Marital Stress Scale (SMSS), and demographic characteristics form covering such information as age, gender, educational level, occupational level, use of cardiac medications, history of other underlying diseases, ejection fraction, and selective treatment.

14-item The RDAS is а standardized questionnaire with three subscales measuring the quality of marital relationships. The subscales include "agreement" (items 1-6), "satisfaction" (items 7-10), and "coherence" (items 11-14). The items are scored based on a six-point Likert scale on which 0 signifies "totally disagree" and 5 indicates "totally agree". It should be noted that six items are scored reversely (1-5 and 11). The total score of the RDAS ranges from 0 to 69, and the scores higher than 47 show higher quality of marital relationship. The reliability and validity of the Persian version of the RDAS were evaluated by Montazeri et al. They reported a Cronbach's alpha of 0.90 for the questionnaire (19). In addition, Cronbach's alpha coefficient in this study was obtained at 0.91.

The SMSS is a 17-item standardized questionnaire evaluating marital stress. It was developed by Orth Gomer et al. (2000) to investigate patients with heart disease (20). The items are scored from 0 to 1 on which 1 is equal to "NO" and 0 is equal to "YES" in items 14, 13, 8, 7, 5, 2, 1, and 15. Other items are scored reversely, and the total score of the SMSS ranges from 0 to 17. Higher scores indicate higher marital stress levels. The reliability and validity of the Persian SMSS were evaluated by Besharet et al. They reported a Cronbach's alpha of 0.91 for the questionnaire (21). In addition, Cronbach's alpha coefficient in this study was obtained at 0.89.

After obtaining the necessary permissions and approvals, the researchers referred to the study setting and identified eligible subjects. All participants were informed of the research process, and informed consent was obtained from them. Subsequently, the participants were requested to complete the demographic characteristics forms. After two months, they were invited to the study setting to complete the RDAS and SMSS. The interview technique was used for those who were unable to read or write in order to complete the questionnaires. Patients' names were coded for being kept secret, and they had the right to withdraw from the study for any reason.

This study was conducted based on the Declaration of Helsinki. Due to the great sensitivity of marital issues and for preventing potential measurement biases, the questionnaires were administered and filled by same-gender-interviewers.

The data were analyzed in SPSS software (version 13.0). Moreover, central indices were employed to assess demographic characteristics, such as gender, educational level, history of an underlying disease, use of cardiac medications, ejection fraction, and selective treatment. The Pearson correlation was also utilized to investigate the correlation between the quality of the marital relationship and its dimensions with marital stress. Furthermore, linear regression analysis was performed to remove the confounding effects of intervening factors. A p-value less than 0.05 was considered statistically significant.

Results

Out of 420 patients who had been hospitalized in the study setting, 120 cases did not meet the inclusion criteria. Accordingly, 300 subjects were selected and completed the study. Of these patients, 63.6% of them were male. The mean age of the participants was 65.95±5.06 years. Regarding the educational level, 30% of them had a diploma and higher education degrees, and 30.9% of the cases were employed. Moreover, 22.7% and 34.5% of them had no underlying diseases and consumed no medications, respectively.

According to the results, the mean total score of the quality of the marital relationship was estimated at 54.36 ± 9.4 (agreement= 26.7 ± 4.6 ; satisfaction= 19.4 ± 3.7 ; and coherence= 8.25 ± 2.9); in addition, the mean score of the marital stress was obtained at 3.56 ± 0.05 . The Pearson correlation test results revealed a significant negative correlation between the score of marital relationship quality and marital stress score (r= -0.718) (Table 1). Furthermore, the linear regression analysis was performed to remove the confounding effects of the variables, including gender, age, educational level, occupational level, history of chronic disease, use of cardiac medications, ejection fraction, and selective treatment.

According to the results of linear regression analysis, there was a significant relationship between the quality of the marital relationship and marital stress after removing the effects of intervening variables (P=0.001, R^2 = 0.614) (Table 2).

Table 1. Correlation between the quality of marital relationship score and its dimensions with marital stress score in patients with ischemic heart disease

Variables	Quality of marital relationship	Agreement	Satisfaction	Coherence
Marital stress	**-0.718	-0.607**	-0.628**	-0.563**
** P=0.001				

Pearson correlation test

Table 2. Linear regression tets results between the quality of marital relationship score and the effects of confounding variables in patients
with ischemic heart disease

Variable	В	Sig	Lower Bound	Upper Bound
Age	0.364	0.000	0.269	0.459
Gender	-0.322	0.657	-1.744	1.101
Educational level	-0.085	0.915	-1.665	1.494
Occupational level	0.292	0.704	-1.220	1.804
Ejection fraction	0.304	0.422	-0.440	1.049
History of chronic disease	-3.321	0.000	-5.053	-1.589
Use of cardiac medications	1.417	0.069	-0.112	2.947
Selective treatment	-0.030	0.926	-0.663	0.603
Marital stress	-2.849	0.000	-3.123	-2.575

Discussion

Patients with IHD may report difficulties with their marital relationships (22). However, considerable doubts exist over the effects of this disease on patients' marital relationships (12). The findings in this study showed a significant negative correlation between the quality of the marital relationship and marital stress scores in patients with IHD. To some extent, this result is in line with the findings of a study performed by Assari et al., (22) in which they indicated a significant association between total quality of marital relationships and sexual fear among patients with IHD. Furthermore, there was a mild to moderate association between sexual relationships and the quality of marital relationships.

In another study carried out by Shamsipour et al., a significant relationship was shown between depression and marital stress in females with IHD. Therefore, the quality of the marital relationship was influenced by this mental aspect (23). However, there are studies showing opposite results (24-26). It seems that people follow up on the fear of losing their spouses and changes in lifestyle, pay attention together, promote intimacy and perception, reduce marital stress, and promote quality of marital relationship (27). In this study, the obtained scores of martial stress and quality of marital relationship were 3.56 ± 0.05 and 54.36 ± 9.4 , respectively. The reason for the low scores of marital stress and high quality of the marital relationship may be attributed to gender, educational level, and marital distress level.

One of the limitations of this study was the different physiologic conditions of the participants that might have effects on the findings. Moreover, since this study included a specific group of patients, the generalization of the findings must be made cautiously.

Conclusion

The results of this study indicated that two months after experiencing IHD, the quality of the marital relationship was improved followed by a reduction in the level of marital stress in the patients. In addition, a reduction in marital stress promoted the quality of marital relationships. It is recommended that nurses who are providing care to patients with IHD pay closer attention to patient education about marital stress and the quality of the marital relationship.

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Conflicts of interest

The authors declare that they have no conflicts of interest.

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References

- 1. Levine GN, Steinke EE, Bakaeen FG, Bozkurt B, Cheitlin MD, Conti JB, et al. Sexual activity and cardiovascular disease a scientific statement from the american heart association. Circulation 2012;125(8):1058-72. PMID: 22267844
- Steinke EE, Jaarsma T, Barnason SA, Byrne M, Doherty S, Dougherty CM, et al. Sexual counselling for individuals with cardiovascular disease and their partners A consensus document from the American heart association and the ESC council on cardiovascular nursing and allied professions (CCNAP). Eur Heart J 2013;34(41):3217-35. PMID: 23900695
- 3. Lukkarinen H, Lukkarinen O. Sexual satisfaction among patients after coronary bypass surgery or percutaneous transluminal angioplasty: Eight-year follow-up. Heart Lung

2007;36(4):262-9. PMID: 17628195

- Lunelli RP, Rabello ER, Stein R, Goldmeier S, Moraes MA. Sexual activity after myocardial infarction: taboo or lack of knowledge? Arq Bras Cardiol 2008;90(3):156-9. PMID: 18392393
- Hazelton AG, Sears SF, Kirian K, Matchett M, Shea J. Cardiology patient page. Coping with my partner's ICD and cardiac disease. Circulation 2009;120(10):e73-6. PMID: 19738146
- Sarhadi M, Navidian A, Fasihi Harandy T, Ansari Moghadam A. Comparing quality of marital relationship of spouses of patients with and without a history of myocardial infarction. J Health Prom Manag 2013;2(1):39-48. Link
- McCall-Hosenfeld JS, Freund KM, Legault C, Jaramillo SA, Cochrane BB, Manson JE, et al. Sexual satisfaction and cardiovascular disease: the women's health initiative. Am J Med 2008;121(4):295-301. PMID: 18374688
- Nascimento ER, Maia AC, Pereira V, Soares-Filho G, Nardi AE, Silva AC. Sexual dysfunction and cardiovascular diseases: a systematic review of prevalence. Clinics 2013;68(11):1462-8. PMID: 24270960
- Vazquez LD, Sears SF, Shea JB, Vazquez PM. Sexual health for patients with an implantable cardioverter defibrillator. Circulation 2010;122(13):e465-7. PMID: 20876441
- Soderberg LH, Johansen PP, Herning M, Berg SK. Women's experiences of sexual health after first-time myocardial infarction. J Clin Nurs 2013;22(23-24):3532-40. PMID: 24118632
- 11. Lau JT, Kim JH, Tsui HY. Mental health and lifestyle correlates of sexual problems and sexual satisfaction in heterosexual Hong Kong Chinese population. Urology 2005;66(6):1271-81. PMID: 16360456
- 12. Ghanbari Afra LG, Taghadosi M, Gilasi HR. Relationship between ischemic heart disease and sexual satisfaction. Global J Health Sci 2016;8(1):263-9. PMID: 26234982
- Taghadosi M, Ghanbari AL, Gilasi HR, Ghanbari AM, Taheri KZ. The relationship between sexual satisfaction and quality of life in patients with acute coronary syndrome. Med Surg Nurs J 2015;4(1):16-22. Link
- 14. DiGiacomo M, Davidson PM, Vanderpluym A, Snell R, Worrall-Carter L. Depression, anxiety and stress in women following acute coronary syndrome: implications for secondary prevention. Aust Crit Care 2007;20(2):69-76. PMID: 17568535
- Lee JH, Chopik WJ, Schiamberg LB. Longitudinal associations between marital quality and sleep quality in older adulthood. J Behav Med 2017;40(5):821-31. PMID: 28396970
- Komasi S, Saeidi M. What is role of sex and age differences in marital conflict and stress of patients under Cardiac Rehabilitation Program? ARYA Atheroscler 2016;12(3):138-45. PMID: 27752271
- Story LB, Bradbury TN. Understanding marriage and stress: Essential questions and challenges. Clin Psychol Rev 2004;23(8):1139-62. PMID: 14729426
- Sohrabi A, Jahani A, Mehrabian T, Marashian F, Zaheri S. The relationship between sexual satisfaction and quality of life in patients with acute coronary syndrome. Med Surg Nurs J 2015;4(1):22-16. Link
- Montazeri A, Goshtasebi A, Vahdaninia M, Gandek B. The short form health survey (SF-36): translation and validation study of the Iranian version. Qual Life Res 2005;14(3):875-82. PMID: 16022079
- Orth-Gomer K, Wamala SP, Horsten M, Schenck-Gustafsson K, Schneiderman N, Mittleman MA. Marital stress worsens prognosis in women with coronary heart disease: The Stockholm Female Coronary Risk Study. JAMA 2000; 284(23):3008-14. PMID: 11122587
- Besharat MA, Shamsipour H, Barati N. Reliability and validity of the Stockholm Marital Stress Scale - Tehran. Psychol Sci J 2006;5(19):217-25. Link
- 22. Assari S, Moghani Lankarani M, Ahmadi K, Kazemi Saleh D.

Association between sexual function and marital relationship in patients with ischemic heart disease. J Tehran Heart Cent 2014;9(3):124-31. PMID: 25870630

- 23. Shamsi PH, Besharat MA, Sadeghian S. An investigation of the relationship between marital stress and depressive symptoms among women with coronary heart disease. J Psychol Educ 2006;35(2):21-37. Link
- McCarthy BW. Strategies and techniques for revitalizing a nonsexual marriage. J Sex Marital Ther 1997;23(3):231-40. PMID: 9292838
- 25. Shi H, Zhang FR, Zhu CX, Wang S, Li S, Chen SW. Incidence of changes and predictive factors for sexual function after

coronary stenting. Andrologia 2007;39(1):16-21. PMID: 17212805

- 26. Kaya C, Yilmaz G, Nurkalem Z, Ilktac A, Karaman MI. Sexual function in women with coronary artery disease: a preliminary study. Int J Impot Res 2007;19(3):326-9. PMID: 17170712
- 27. Abramsohn EM, Decker C, Garavalia B, Garavalia L, Gosch K, Krumholz HM, et al. "I'm not just a heart, I'm a whole person here": a qualitative study to improve sexual outcomes in women with myocardial infarction. J Am Heart Assoc 2013;2(4):e000199. PMID: 23885024