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

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ABSTRACT

Background and Aim: Marital relationship is a multi-dimensional relationship, 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.

Materials and Methods: This cross-sectional study was performed on 300 patients with acute coronary syndrome two months after being admitted to the Cardiac Angiography Unit at Shahid Beheshti Hospital, Qom, Iran, during 2016. The 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 data were then analyzed in SPSS software (version 13) through central indices, Pearson correlation test, and multiple linear regression.

Results: The mean age of the patients was 65.95±5.06 years. Moreover, the mean values of the quality of marital relationships and marital stress were 54.36±9.4 and 3.56±0.05 respectively. The Pearson correlation coefficient showed a significant 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 adaptation, sexual satisfaction, 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.

The RDAS is a 14-item 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, R²= 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 tests results between the quality of marital relationship score and the effects of confounding variables in patients with ischemic heart disease |
| Variable | B | 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 marital 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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