



# Psychosocial Adjustment to Cardiovascular Diseases and Spiritual Well-Being in Iranian Patients

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## Abstract

**Objective:** In this study, we assessed psychosocial adjustment in patients with cardiovascular diseases and its relationship with spiritual well-being.

**Methods:** This descriptive analytic study was performed in 2018 in Qazvin, Iran. The subjects were 150 patients who were admitted to the cardiac ward of a teaching hospital. Data were collected using a background variables checklist developed by the researchers and two standard questionnaires of Psychosocial Adjustment to Illness Scale and Ellison-Paloutzian Spiritual Well-Being Scale.

**Results:** The final score of psychosocial adjustment to cardiovascular diseases was  $62.78 \pm 6.8$  (range 48-83), indicating a moderate level of psychosocial adjustment to cardiovascular diseases. The mean score of psychosocial adjustment to cardiovascular diseases was significantly higher in women than in men ( $p=0.03$ ). In this study, the mean of overall spiritual well-being was 74.93 indicating a moderate level of spiritual well-being. The mean of overall spiritual well-being was significantly higher in women than in men ( $p=0.001$ ). The results showed a significant negative relationship between the participants' psychosocial adjustment to cardiovascular diseases and spiritual well-being ( $rr=-0.21$ ,  $p=0.01$ ).

**Conclusion:** Findings from this study revealed that patients with cardiovascular diseases have a poor level of psychosocial adjustment. Patients with higher level of spiritual well-being reported better psychosocial adjustment.

**Keywords:** Adaptation, psychological, social adjustment, heart diseases, spirituality, nursing care

## İranlı Hastalarda Kardiyovasküler Hastalıklara Psikososyal Uyum ve Ruhsal İyilik Hali

### Özet

**Amaç:** Bu çalışmada kardiyovasküler hastalığı olan hastalarda psikososyal uyumu ve bunun ruhsal iyilik hali ile ilişkisini değerlendirdik.

**Yöntemler:** Bu tanımlayıcı analitik çalışma 2018 yılında İran'ın Kazvin kentinde gerçekleştirilmiştir. Denekler, bir eğitim hastanesinin kardiyoloji servisine kabul edilen 150 hastaydı. Veriler, araştırmacılar tarafından geliştirilen bir arka plan değişkenleri kontrol listesi ve Hastalığa Psikososyal Uyum Ölçeği ve Ellison-Paloutzian Manevi İyi Oluş Ölçeği'nin iki standart anketi kullanılarak toplanmıştır.

**Bulgular:** Kardiyovasküler hastalıklara psikososyal uyumun nihai skoru  $62.78 \pm 6.8$  (aralık=48-83) olup kardiyovasküler hastalıklara orta düzeyde psikososyal uyumu göstermektedir. Kadınlarda kardiyovasküler hastalıklara psikososyal uyum ortalama

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skoru erkeklere göre anlamlı olarak daha yüksekti ( $p=0.03$ ). Bu çalışmada genel ruhsal iyilik hali ortalamasının 74.93 olması orta düzeyde ruhsal iyilik halini ifade etmektedir. Genel ruhsal iyilik halinin ortalaması kadınlarda erkeklere göre anlamlı olarak daha yüksekti ( $p=0.001$ ). Sonuçlar, katılımcıların kardiyovasküler hastalıklara psikososyal uyumu ile ruhsal iyilik hali arasında anlamlı bir negatif ilişki olduğunu gösterdi ( $r=-0.21$ ,  $p=0.01$ ).

**Sonuç:** Bulgular, kardiyovasküler hastalığı olan hastaların psikososyal uyum düzeylerinin düşük olduğunu ortaya koymuştur. Ruhsal iyilik hali düzeyi daha yüksek olan hastalar daha iyi psikososyal uyum bildirdiler.

**Anahtar sözcükler:** Adaptasyon, psikolojik, sosyal uyum, kalp hastalıkları, maneviyat, hemşirelik bakımı

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**C**ardiovascular diseases are chronic and common throughout the world.<sup>[1,2]</sup> They cause 17.7 million deaths in the world annually, which is one-third of all deaths.<sup>[3]</sup> This rate is considerably higher in Iran, and it was reported to be nearly 50% in some studies.<sup>[4]</sup>

Many patients with cardiovascular diseases experience anxiety, depression, and a feeling of sorrow and loss.<sup>[5]</sup> Cardiovascular diseases are chronic and affect all dimensions of life over the years.<sup>[6]</sup> Lack of proper adjustment to a new condition can cause several problems in patients with cardiac illness, such as increased rate of psychological disorders and decreased functional activity.<sup>[7]</sup>

Therefore, patients with cardiovascular diseases need to adapt to their new condition appropriately.<sup>[8]</sup> Previous studies have shown that patients with cardiovascular diseases face numerous problems in adjustment to the disease. In a study, Khalilzade et al.<sup>[9]</sup> examined adjustment to cardiac failure among the patients living with the problems of this disease. In this study, 60 patients with heart failure were examined. The results showed that a high percentage of patients with heart failure have poor adjustment to their illness.

Spiritual well-being is an important dimension of health, which integrates relationship between inner forces. It is characterized by stability in life, peace, fitness and harmony, and a feeling of connection with God.<sup>[10]</sup> According to Palutzian and Ellison,<sup>[10]</sup> spiritual well-being has vertical and horizontal dimensions [10]. The vertical dimension includes a healthy feeling regarding God (religious), and the horizontal dimension is a feeling of satisfaction and purposefulness in life (existential health).<sup>[11]</sup> Indeed, spiritual well-being is a feeling of harmonic relationship between self, others, nature, and a higher power, which is provided by a dynamic growth process and results in the perception of meaning and ultimate goal of life. In the recent years, there have been significant investigation and discussion about spiritual well-being and its effects on life in patients with cardiovascular diseases. In a study, Gök Metin and Helvacı<sup>[12]</sup> examined the relationship between spiritual health and quality of life and psychological problems among patients with heart failure in Turkey. The results showed a

reverse relationship between spiritual health and psychological problems in this group of patients.<sup>[12]</sup>

Spiritual well-being and spirituality can affect psychosocial adjustment to illness (PSAI) among the patients.<sup>[13]</sup> However, few studies have been conducted on spiritual health and its relationship with PSAI in patients with cardiovascular diseases. Patients with cardiovascular diseases may experience different physical and psychological symptoms than other patients. Therefore, a study on PSAI in patients with cardiovascular diseases and its related factors is necessary.

This study had two main aims: 1) to examine PSAI among patients with cardiovascular diseases and 2) the relationship between PSAI and level of spiritual well-being.

## Materials and Methods

### Sample

This was a descriptive analytic study conducted in 2018 in Qazvin, Iran. The participants included 150 male and female patients who were admitted to the cardiac ward of a teaching hospital in Iran. They were selected by convenience sampling. The inclusion criteria were having cardiac disease, age over 18, and agreeing to participate in the study. Patients with serious conditions according to their medical report, such as those in the acute phase of acute coronary syndrome (ACS) or patients who needed emergency cardiac surgery and patients who were unable to respond questions were excluded from the study.

Using the below formula for sample size and considering  $\alpha=0.05$ ,  $\beta=0.10$ , and  $r=0.3$ , the minimum sample size was determined to be 99 cardiac patients. Because of the availability of more patients in our hospital, we finally entered 120 patients into the study.

$$N = \frac{(z_{1-\frac{\alpha}{2}} + z_{1-\beta})^2}{r^2} + 3$$

### Data Collection Methods and Tools

Two researchers collected the data throughout the study. Following obtaining necessary approval and coordination with head nurses, the researchers visited the wards on spe-

cific times during the day. Before providing the questionnaire to patients, the objective of the study was restated to them. Patients were asked to complete the questionnaires in one hour and return them to the researcher. The researchers visited the wards and answered all their possible questions.

Data were collected using a background variables checklist developed by the researchers, which included age, sex, and marital and economic status. We also used two standard questionnaires of PSAI Scale and Ellison-Palutizian Spiritual Well-Being Scale.

**The PSAI scale:** The PSAI scale was developed by Leonardo Derogatis to assess PSAI in patients with chronic diseases.<sup>[14]</sup> This questionnaire consists of 46 questions and seven subscales. Its domains are health care orientation, vocational environment, domestic environment, sexual relationships, extended family relationship, social environment, and psychological distress. This questionnaire is marked on a four-point Likert scale (0-3). The sum of scores of the 46 questions range from 0 to 138. Final scores of less than 35 indicate a high level of PSAI, score between 35 to 51 indicate a fair level of PSAI, and scores of more than 51 indicate low level of PSAI.<sup>[14]</sup>

In this study, the Persian version of this questionnaire was used; Fegghi et al.<sup>[15]</sup> approved its translation, validity, and reliability.

**The Ellison-Palutizian Spiritual Well-Being Scale:** This questionnaire consists of 20 questions. It assesses spiritual well-being in two dimensions of religious well-being and existential well-being. The score of each dimension ranges from 10-60, and the score of overall spiritual wellbeing ranges between 20 and 120. Responses to each question range from 1 to 6. A higher score on this scale showed a higher level of spiritual well-being (scoring not ranged). The Persian version of this questionnaire has appropriate validity and reliability and has been frequently used in Iranian patients.<sup>[16-18]</sup>

### Evaluation of Research Data

Analysis of the gathered data was performed with the Statistical Package for Social Sciences version 16 (SPSS Inc.; Chicago, IL, USA). Given the normal distribution of data according

to the Kolmogorov-Smirnov test ( $p$  values  $>0.05$ ), parametric tests including Pearson correlation coefficient test, one sample student t-test, and analysis of variance were used for analysis. The level of significance was considered at 0.05 in all tests, except the Kolmogorov-Smirnov test.

### Ethics

The Helsinki Declaration code of ethics in human study was considered during all stages of the study. Ethical approval was obtained from the ethics committee of Qazvin University of Medical Science QUMS (ethical code: IR.QUMS.REC.1395.139) in 2017. The consent form was read and signed by all the patients after they were provided with the necessary information regarding the methods and objective of the study.

### Results

The mean age of the patients was  $55.4 \pm 13.6$  years. Of the 150 patients, 50% were men, 75% were married, and 62% had a lower diploma. In terms of economic status, most participants had a relatively appropriate economic status.

### The PSAI

The mean score of total PSAI in the patients investigated was  $62.78 \pm 6.8$  (range 48-83). The mean scores were significantly higher in men than in women. Table 1 shows PSAI scores and their relationship with patients' demographic characteristics in detail.

### Spiritual Wellbeing

In this study, the mean score of total spiritual well-being and its dimensions of religious and existential well-being was 74.93, 35.97, and 39.07, respectively. Table 1 shows the spiritual well-being scores and their relationship with the patients' demographic characteristics in detail.

### Relationship Between PSAI and Spiritual Well-being in Patients with Cardiovascular Diseases

Findings showed a negative relationship between mean PSAI scores and mean spiritual well-being scores in patients with cardiovascular diseases who were investigated in this study ( $rr = -0.21$ ,  $p = 0.01$ ).

**Table 1. Relationship of PSAI and spiritual well-being with patients' demographic characteristics**

Demographics		PSAI total score		Total spiritual well-being	
<b>Sex</b>	Male	$63.9 \pm 7.7$	$p = 0.03$	$68.10 \pm 10.1$	$p = 0.001$
	Female	$61.4 \pm 5.7$		$81.99 \pm 5.1$	
<b>Marital status</b>	Married	$62.9 \pm 3.1$	$p = 0.714$	$75.12 \pm 3.7$	$p = 0.296$
	Single	$61.8 \pm 2.9$		$73.9 \pm 2.6$	
<b>Economic status</b>	Poor	$62.1 \pm 2.4$	$p = 0.796$	$75.9 \pm 7.2$	$p = 0.02$
	Moderate	$61.9 \pm 7.2$		$73.1 \pm 1.8$	
	Good	$63.0 \pm 4.1$		$72.4 \pm 6.6$	
<b>Age</b>		$p = 0.546$	$p = 0.362$		

PSAI: Psychosocial adjustment to illness scale.

## Discussion

In this study, we examined PSAI in a group of Iranian patients with cardiovascular diseases and its relationship with their level of spiritual health. The results showed that patients have a poor level of PSAI, and their sex affects it significantly. The results also showed that levels of spiritual well-being were higher in patients with better PSAI.

Adjustment is preserving a positive attitude to self and the universe despite physical problems.<sup>[8]</sup> The results of our study showed that patients with cardiovascular diseases have problems in PSAI. Our literature review showed a few studies that examined the PSAI among the patients with cardiovascular disease. Karatas and Bostanoglu<sup>[19]</sup> in Turkey examined this topic in 250 patients with cardiovascular diseases. Similar to the results of our study, their findings showed that this group of patients had poor adjustment to illness. In another study conducted in Iran, Hekari and Mohammadzadeh<sup>[20]</sup> examined the level of adjustment in women with coronary artery diseases based on Roy's nursing theory. The results showed that women had moderate adjustment in dimensions of physiologic, self-concept, and role function and poor adjustment in the interdependence dimension, which is different from the findings of our study. This difference could be related to the difference in samples of the two studies. Hekari and Mohammadzadeh<sup>[20]</sup> examined adjustment in women only. In addition, the questionnaires in our study for assessing PSAI were different from the questionnaires in study by Hekari and Mohammadzadeh.<sup>[20]</sup> Patients with cardiovascular diseases face numerous physical, psychological, and environmental challenges,<sup>[21]</sup> which occur more frequently in developing countries. Although PSAI is important in patients with cardiovascular diseases, few studies have been conducted on effective interventions for increasing psychosocial adjustment. However, among other groups of patients such as those on hemodialysis or with cancer, studies have shown that use of nursing theories such as the Roy's nursing theory is useful.<sup>[22-24]</sup>

According to the findings of this study, the spiritual dimension of life should be considered to improve PSAI in patients with cardiovascular diseases. An increase in the level of spiritual well-being results in an increase in PSAI. Although the relationship between PSAI and spiritual health has not been investigated in this group of patients, the results of other studies conducted on patients with other conditions are consistent with this study.<sup>[25,26]</sup> In a study, Aghaeipour et al.<sup>[27]</sup> examined the relationship between spiritual well-being and anxiety in 384 older patients with heart failure. They used the Ellison-Palutian spiritual well-being questionnaire and Beck anxiety

scale. The results showed that older patients with heart failure who have a higher spiritual health experience less anxiety. Indeed, a higher level of spiritual health is a protective factor against anxiety in these patients.<sup>[27]</sup> In another study, Bekelman et al.<sup>[28]</sup> examined the relationship between spiritual health and depression in a group of patients with cardiovascular diseases. The results showed that a higher spiritual health decreased depression in these patients. Spirituality and spiritual health have been considered in healthcare in the past.<sup>[29]</sup> Indeed, spirituality is an important source in adjustment to stressful situations, particularly health-related issues.<sup>[30]</sup> It gives people identity, satisfaction, pleasure, love, respect, positive attitude, peace, inner harmony, and a purpose in life.<sup>[31]</sup> Patients with cardiovascular diseases have used spirituality as a mechanism for better adjustment to illness, and cardiac nurses should pay attention to and improve this aspect.

The results of our study also revealed that women have better PSAI than men. Gautam and Poudel<sup>[32]</sup> also reported similar findings. They reported that women with colorectal cancer have better adjustment than men with the same illness.<sup>[32]</sup> In another study in Portugal, researchers examined PSAI in adolescents and young adults with congenital heart disease and reported that female patients have a poor level of PSAI, which is different from the findings of this study. This difference could be related to the difference in samples of the two studies.<sup>[33]</sup> The sample of the Portugal study were younger than the sample in our study (mean age of 18.7 versus 55.4 years). In addition, it appears that women use spirituality more than men as a coping strategy for adjustment to illness because they reported a higher level of spirituality in women than in men in this study.

## Limitations

Our study performed in one center and generability of finding affected. Also all patients who participate in our study were Muslim that should be considered when using finding.

## Conclusion

The results of our study revealed that patients with cardiovascular diseases have a poor level of PSAI, which has a significant relationship with their spiritual well-being. The results of our study could be used to enhance healthcare in this group of patients. Given few studies on this topic, it is recommended that further studies be carried out in other societies. It is also recommended to examine the relationship of spiritual well-being with other dimensions of life in patients with cardiovascular diseases, including the psychological situation and quality of life.

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**Conflict of Interest:** The authors have no conflict of interest to declare.

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