

## ■ Original article

## Spiritual intelligence and its related factors in patients with ischemic heart disease

Azam Noori Saeed<sup>1</sup>, Arsalan Salari<sup>2</sup>, Ali Noori Saeed<sup>3</sup>, Fateme Moadab<sup>4</sup>, Leila Rouhi Balasi<sup>4\*</sup>

(Received: 4 Oct 2014; Accepted: 15 Oct 2014)

### Abstract

**Background and Purpose:** Diagnosing coronary artery disease can cause considerable impairment in patients' mental health. On the one hand, psychological factors play an important role in the development and progression of heart disease. Therefore, identifying the factors affecting the patient's ability to adapt such as spiritual intelligence (SI) is significant. The study aims to determine the status of spiritual intelligence and its related factors in patients suffering from ischemic heart disease.

**Methods:** This study community consists of the patients with ischemic heart disease hospitalized in cardiac ward of Dr.Heshmat Hospital; 186 patients were selected by accessible sampling method. Data were collected by spiritual intelligence 29-item questionnaire and analyzed by descriptive and inferential statistics (t-test, ANOVA and Pearson).

**Results:** In this study, the majority of the samples were in the age range of 45-64 years old (68/8%), men (67/2%), married (99/5 %), with elementary education level (51/1%) and housewives (29%). The results implied that more than 90% of the patients had high spiritual intelligence. Also based on the statistical analysis, no significant association has been observed between the demographic variable and spiritual intelligence.

**Conclusion:** It seems that high spiritual intelligence in the community resulted from stress induced illness leading to their greater tendency to spirituality. In general, according to the psychological literature, spiritual intelligence can promote the patients' mental and physical health. Then, paying attention to spiritual intelligence in these patients seems to be critical.

**Keywords:** Spiritual intelligence, Coronary artery disease.

### Introduction

Ischemic heart disease is viewed as the most prevalent heart disease and the main cause of deaths in today world (1). This disease is considered as one of the most important diseases worldwide in terms of the economic issues up to 2020 (2). It is predicted that from 2020, around 25 million heart disease deaths will happen annually and it is ranked as the first factor of

destroying & disabling (3) In Iran also like many other countries, it is taken as one of the leading reasons moment, it is the first cause of deaths in the behind deaths and lost years of life (4) and at the people above 35 in Iran (2). In addition to raising physical problems, diagnosing coronary artery disease can create noticeable disorders in the patients' mental status (5). On the one hand,

<sup>1</sup>Department of Psychology, Guilan University of Medical Sciences, Rasht, Iran.

<sup>2</sup>Department of Cardiology, Guilan Interventional Cardiovascular Research Center, Heshmat Hospital, Guilan University of Medical Sciences, Rasht, Iran.

<sup>3</sup>Department of Islamic Studies, Guilan University of Medical Sciences, Rasht, Iran.

<sup>4</sup>Department of Medical Surgical Nursing, Guilan Interventional Cardiovascular Research Center, Heshmat Hospital, Guilan University of Medical Sciences, Rasht, Iran.

Corresponding author: Leila Rouhi Balasi, Email: [roohi\\_balasi@yahoo.com](mailto:roohi_balasi@yahoo.com).

the risk factors being discussed about coronary disease are the social-psychological factors (2). Some of these disorders include anxiety, depression and lack of confidence about future (5,6). Also today the positivistic psychological approach focuses on mental health and considers having it as possessing healthy physical, social & psychological condition. One of the psychological health indices we can mention is lack of stress, anxiety and depression (7). It has been depicted that psychological factors play a decisive role in heart disease development & progression (3, 8). The study results by Ebadi et al. revealed a meaningful relationship between psychological factors & cardiac events (8). In fact, the psychosocial factors cause negative impacts on the health status of the patients and healthy individuals (2). According to the research & epidemiologic evidence, these risk factors can diminish quality of life & cause the death of the people with cardiovascular diseases even after controlling the biological risk factors such as cholesterol level and blood pressure known as death predictors (6). Thus regarding the growing emphasis of the researchers in health field on the accompaniment & association of mental-social factors with the simultaneous emergence of cardiovascular diseases, it is essential to identify the question factors and its counter measures be taken into account more than ever (3). Of the factors affecting mental health is spiritual intelligence (7). It has been suggested that there is a positive relationship between people's spiritual beliefs and mental health (9). Thus spirituality and spiritual growth in human & its role in various parts of life has increasingly drawn the attention of psychologists & mental health experts to itself in the recent decades (10). Since the studies have revealed that the individuals with more spiritual tendencies better respond when facing damage, control the stressors better and have better health (7,11,12). Robert Imonz defines spiritual intelligence as consistently using spiritual information to facilitate daily affairs

and the goal progression (13). Spiritual intelligence makes the person get deep insight & not feel scared when running into life events & nuisances (14). As a result, spiritual intelligence plays a significant role in promoting people's mental health & physical and mental well-being (7,14,15) and enables the person to adapt effectively and come up with problem solution behaviors (13,15). The individuals with high spiritual intelligence are flexible, high alert and capable in confronting with problems, pains and overcoming them (13). Generally, a positive meaningful relationship has been observed between high spiritual intelligence and reduced mental-psychological disorders and boosted confidence (14). Besides, the studies on spirituality & cardiovascular diseases relationship have displayed that higher levels of spirituality has accompanied with lower progression of cardiovascular diseases in a 4-year follow-up. In the research conducted by Khayyam Nikoee et al., it has been shown that spiritual intelligence plays a remarkable role in coronary artery disease patients' quality of life (6). Now considering the increasing coronary artery disease prevalence and the significance of spiritual intelligence on these patients' mental health and concerning the fact that these factors can be influenced by the person's individual, social and cultural factors, it seems necessary to analyze it in society.

The present research pursues the goal to determine the spiritual intelligence status and its related factors in the patients afflicted with ischemic heart disease.

## Materials and Methods

The current research is descriptive-correlative. The statistical community consists of the patients with ischemic heart disease in the women & men cardiac ward of Dr. Heshmat medical educational center located in Rasht. The sampling method in this study is accessible and in time period of 4 months from late September to late January 2013.

Also the required sample size to determine the spiritual intelligence status & its related factors based on Mohebi's study results with confidence 95% and the estimated error level of 5% and S=0.17 (SI variable standard deviation) and based on the following sampling formula has been set 186 subjects (16) and also for each independent variable, 15 subjects have been added to the samples.

$$N \geq \frac{(Z_{1-\alpha/2})^2 \times S^2}{d^2} = \frac{(1.96)^2 \times (17.42)^2}{(5)^2} = 47 \quad N \geq 186$$

The data collection tool has been a 2-part questionnaire the first part of which included personal & social data of the study units (age, married, education, smoking history, hypertension history, diabetes history and myocardial infarction) and the second part the spiritual intelligence tool.

Spiritual intelligence 29-item questionnaire has been in the form of 5 options scored by Likert method .The min score is 29 and the max is 145.The scores (29-67) imply poor SI, scores (68-106) mean average SI and scores (107-145) stand for high SI. This questionnaire was standardized by Abdullah-zade et al. in 2008 and its reliability has been estimated by  $\alpha$ -Cronbach as 0.87(16).

The inclusion criteria encompassed the ischemic heart disease certain diagnosis by angiography, not suffering from known mental disorders based on the patients' medical records, & their willingness to participate in the study .In terms of ethics also study units have been asked for an oral consent and they were assured that whenever they demanded, they could exit the study.

The data collected have been analyzed using descriptive statistics (frequency distribution, mean and standard deviation) and inferential statistics (independent t-test, Pearson and ANOVA) and SPSS 16.

## Results

The data analysis results indicated that out of total 186 study samples ,the majority were in age range

45-64 years old (68.8%) and mean age 58.1±9.27 years old. The findings revealed that the majority of the study units didn't have any smoking background (60.8%), lacked hypertension (57%), had no diabetes record (86.8%) and had no myocardial infarction record (70.4%).

The study units' spiritual intelligence mean & standard deviation was 123.06±14.57.In addition, it has been suggested that 92.5% of the patients possessed high SI, 5.9% had average SI and 1.6% had poor SI (table 1).

The results of Pearson correlation test indicated that there is no significant statistical difference between spiritual intelligence & age (P=0.514).Plus the results of Fisher's test didn't reveal any significant statistical relationship between spiritual intelligence and age (P=0.653), marital status (P=0.960), smoking record (P=0.795), hypertension record (P=0.294), diabetes history (P=0.420) and myocardial infarction (P=0.973).

**Table 1.** frequency of Spiritual Intelligence positions in terms of some of the demographic &medical variables

Spiritual Intelligence Status		Poor (29-67)	Average (68-106)	High (107-145)
Variable		No (%)	No (%)	No (%)
≤ 40	Age	0	0	6
41-60		2	5	95
60>		1	6	71
Male	Gender	2	6	117
Female		1	5	55
Single	Marital status	0	0	1
Married		3	11	171
Yes	Smoking history	1	3	69
No		2	8	103
Yes	hypertension history	0	6	74
No		3	5	96
Yes	Myocardial infarction	1	3	51
No		2	8	119

Besides, ANOVA test results also confirm no existence of a significant relationship between education level, job and Spiritual Intelligence.

## Discussion

The results gained denote that the majority of the units possess high spiritual intelligence. The study results by Moameni et al. pursuing the goal to analyze the relationship between spiritual intelligence and the coronary artery patients' anxiety showed that the patients' high spiritual intelligence religious subscale score is high. Moameni stated that the reason behind this fact can be attributed to life stressful situations and the crisis out of the disease resulting in increased religious tendency (17).

In this research, no meaningful statistical relationship has been observed between spiritual intelligence and age. In the study by Moameni & Bairami also no significant relationship has been reported between age and spiritual intelligence (7, 17). However, in the research conducted by Kaheni et al. a meaningful relationship has been seen between age & spiritual intelligence so that the elderly over 70 years old got higher score (14).

In addition, in most of the studies, there has been a robust correlation between spiritual intelligence performance and the age of the subjects, of course this doesn't mean that acquiring spiritual intelligence skills happens automatically and as age goes up, rather this implies that the individuals can select & learn spiritual intelligence skills as they get older (14). The researcher believes that perhaps the reason behind these contradictory findings is due to using different tools of spiritual intelligence.

It has been depicted in the present research that there is no meaningful relationship between spiritual intelligence and gender. These findings are compatible with the study by Pour-zanjani et al. (13). While the study results by Moameni et al. supported the existence of a significant relationship between spiritual health and intelligence (17). Though, in most cultures, compared to men, women have higher religiosity to spirituality. Lack of difference between the mean scores of women & men in the present study can result from the existing religious culture in our society (14). On the

one hand, employing various tools can also support these findings.

This study derived findings didn't reveal any meaningful relationship between marital status, education level, job, smoking history, hypertension history, diabetes record and myocardial infarction that is consistent with the study findings of Moameni et al. and Mohebi et al. (16, 17). While in the research by Pour-zanjani, a meaningful relationship has been observed between education level & spiritual intelligence (13). In the research by Kaheni et al. also the results denoted the existence of a meaningful relationship between spiritual intelligence and marital status (14). The researchers assume that the difference in the study communities and using diverse tools may have influenced the results of this study.

And finally it's worth mentioning that lack of relationship between the demographic variables and spiritual intelligence in this study can be out of the type of the tool applied and also the cultural & social difference in the study society with the other studies. Since in most of the literature, the existence of a relationship between the demographic variables and spiritual intelligence has been pointed out. Besides, regarding the researchers' surveys in the study references, this goal hasn't been focused on in the heart patients that confirms the obtaining of such difference findings from the other studies. In fact, these contradictory findings in this field can prove the necessity for performing more comprehensive studies about spiritual intelligence in ischemic heart disease patients using more specialized tools and more sample sizes. Generally, considering the psychological literature, spiritual intelligence can promote the individuals' mental health and consequently, the patients' physical health, thus paying attention to spiritual intelligence factor is very critical in the patients. Also it is worth to study some other variables such as living conditions, the children's number, having insurance, Income and etc. in the future studies in order to obtain more exhaustive results in this respect. In

fact, concerning the novelty of the discussion as patients' spiritual intelligence, it is possible to use this subject in order to promote their quality of life.

## Conclusion

It seems that high spiritual intelligence in the community resulted from stress induced illness leading to their greater tendency to spirituality. In general, according to the psychological literature, spiritual intelligence can promote the patients' mental and physical health. Then, paying attention to spiritual intelligence in these patients seems to be critical.

## Conflict of interest

The authors declared that they had no competing interests.

## Author's contributions

A.Noori Saed was in charge of the study design and data collection. A.Salari was responsible for the study design and study conception. A.Noori Saed was in charge of the study conception. F.Moadab managed data analysis. L.Rouhi Balasi was in charge of the manuscript draft and data analysis.

## Acknowledgments

The researchers feel obliged to appreciate the honored dean of Guilan Medical Sciences University Research & Technology and the interventional Cardiology Research Center & Dr.Heshmat medical educational center and all the patients who sincerely devoted their time to conduct this study.

## References

1. Taghadosi M, Aliakbarzade Arani Z, Gilasi HR. Quality of life in patients with ischemic heart disease. *J Nurs Midwifery Sci.* 2014; 1(1): 19-26 (persian).
2. Nohi E, Abdolkarimi M, Rezaeian M. Quality of life and its relationship with stress and coping strategies in coronary heart disease patients. *J Rafsanjan Univ Med Sci.* 2011; 10(2): 127-37 (persian).
3. Heidary Pahlavian A, Gharakhani M, Mahjub H. A comparative study of stressful life events and stress coping strategies in coronary heart disease patients and non-patients. *Sci J Hamadan Univ Med Sci.* 2010; 7(3): 33-8 (persian).
4. Vahedian Azimi A, Sadeghi M, Movafegh A, Sorouri Zanjani R, Hasani D, Salehmoghaddam M, et al. The relationship between perceived stress and the top five heart disease characteristics in patients with myocardial infarction. *J Zanjan Univ Med Sci.* 2012; 20(78): 99-111 (persian).
5. Ebadi A, Moradian ST, Feyzi F, Asiabi M. Comparison of the hospital anxiety and depression among patients with coronary artery disease based on proposed treatment. *Iran J Crit Care Nurs.* 2011; 3(3): 97-102 (persian).
6. Nekouei ZK, Yousefy A, Doost HT, Manshaee G, Sadeghei M. Structural model of psychological risk and protective factors affecting on quality of life in patients with coronary heart disease: A psychocardiology model. *J Res Med Sci.* 2014; 19(2): 90-8.
7. Bayrami M, Movahedi Y, Movahedi M. The role of spiritual intelligence in perceived stress, anxiety and depression of Lorestan Medical University Students (Iran). *J Babol Univ Med Sci.* 2014; 16(1): 56-62 (persian).
8. Dubois CM, Beach SR, Kashdan TB, Nyer MB, Park ER, Celano CM, et al. Positive psychological attributes and cardiac outcomes: associations, mechanisms, and interventions. *Psychosomatics.* 2012; 53(4): 303-18.
9. Kashdan TB, Nezlek JB. Whether, when, and how is spirituality related to well-being? Moving beyond single occasion questionnaires to understanding daily process. *Personality and Social Psychology Bulletin.* 2012; 38: 1526-1538.
10. Koolae AK, Heidari S, Khoshkonesh A, Heidari M. Relationship between Spiritual Intelligence and Resilience to Stress in Preference of Delivery Method in Pregnant Women. *IJOGI.* 2013; 16(58): 8-15 (persian).

11. Khodabakhshi S, Rahimikia A, Jafari H. Identifying the relationship between spiritual quotient and mental health in the students of Lorestan university of medical sciences. *Yafteh*. 2014; 16(1): 58-65 (persian).
12. Naderi F, Roushani K. The Relations between Spiritual Intelligence, Social Intelligence and Death Anxiety in Ahwaz WomanSeniles. *WOMAN AND CULTURE*. 2011; 2(6): 55-67 (persian).
13. Esmaeilpour zanjani S, Mashof S, Safari Z, Abasi M. Assessment of correlation between self- efficacy and spiritual intelligence of family caregivers of elderly patient with alzheimer in Tehran 1391. *Medical Figh*. 2012; 4(11,12): 151-66 (persian).
14. Kaheni S, Heidar-Fard J, Nasiri E. Relationship between Spiritual Intelligence and medical-demographic characteristics in Community-dwelling Elderly. *J Mazand Univ Med Sci*. 2013; 23(101): 87-94 (persian).
15. Ghana S, Jouybari L, SharifNia S, Hekmatafshar M, Sanagoo A, Chehregosha M .Correlation of spiritual intelligence with some of demographic and educational factors among the students of Golestan University of Medical Sciences. *JHPM*. 2013; 2(1): 17-23 (persian).
16. Mohebi P, Rastegari L, Jafari E, Nia MS. Spiritual Intelligence in Zanzan Nursing and Midwifery Students and its Related Factors. *Nurs Midwifery Care J* 2013; 2(2): 49-56 (persian).
17. Momeni Ghaleghasemi T, Musarezaie A, Moeini M. Survey of Relationship between spiritual wellbeing with Anxiety and Some Demographic Variables in Patients with Coronary Artery Disease. *J Health Syst Res*. 2013; 9(7): 702-11 (persian).