Health, Spirituality and Medical Ethics Journal
Qom University of Medical Sciences
March 2025. Volume 12. Number 1

Research Paper

Investigating the Effect of Spiritual Health and Spiritual Intelligence on the Quality of Life in Medical Students

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Please cite this article as Shamsaei M, Maleki A. Investigating the Effect of Spiritual Health and Spiritual Intelligence on the Quality of Life in Medical Students. Health Spiritual Med Ethics. 2025; 12(1):55-64. http://dx.doi.org/10.32598/hsmej.12.1.665.1

http://dx.doi.org/10.32598/hsmej.12.1.665.1

Article info:
Received: 18 Dec 2024
Accepted: 04 Dec 2024
Publish: 01 Mar 2025

Keywords:
Quality of life (QOL), Spiritual health, Spiritual intelligence, Medical students

ABSTRACT

Background and Objectives: Spiritual intelligence is a cognitive-motivational aspect and one of the multiple intelligence types. Spiritual health, which in the Holy Qur'an refers to a healthy heart and a confident soul, is a state of the soul, and its most important foundations are theology, anthropology, and eschatology. Understanding and applying these principles leads to correct and purposeful behavior in life and spiritual health. This study investigates the effect of spiritual health and spiritual intelligence on the quality of life (QOL) of medical students at Shiraz University of Medical Sciences.

Methods: This study uses a cross-sectional with descriptive-analytical method. A total of 108 basic science students, 54 physiopathology students, and 188 clinical medical students of Shiraz University of Medical Sciences in 2024 were investigated. To collect the data, a questionnaire form including questionnaires of spiritual health questionnaire of the Academy of Medical Sciences, spiritual intelligence of Hildebrant, and the QOL of the World Health Organization QOL questionnaire-brief (WHOQOL-BREF) were used.

Results: A total of 350 people were investigated, comprising 173(49.4%) women and 177(50.6%) men. The mean age of the studied population was 23.22±2.89. The mean spiritual health of the participants was in the medium range, and the mean spiritual intelligence of the participants was in the high range. The level of spiritual health and spiritual intelligence did not have a statistically significant relationship with any of the demographic variables except underlying psychiatric illness. The mean QOL score of the studied population after standardization in the range of 0-100 was equal to 46.18, which was close to the mean. The state of QOL had a statistically significant relationship with the underlying psychiatric illness variable, and it did not have a statistically significant relationship with other demographic variables. The state of QOL had a statistically significant relationship with the level of spiritual health and spiritual intelligence in such a way that the highest QOL was related to the category with high level of spiritual health and high spiritual intelligence, and low QOL had the highest prevalence in the category with low level of spiritual health and low spiritual intelligence.

Conclusion: There is a significant relationship between spiritual health, spiritual intelligence, and QOL in medical students of Shiraz University of Medical Sciences. Accordingly, promoting spiritual health and spiritual intelligence can be considered as one of the approaches to increase the QOL in student populations.

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Introduction

Quality of life (QOL) means a person's understanding of their position in the context of the culture and value systems in which they live and it is related to their goals, expectations, standards, and concerns. It indicates the feeling of satisfaction with life. A person who has damaged spiritual health is prone to suffering from various mental injuries, such as depression, loneliness and loss of meaning in life. These injuries affect the quality of a person's life [1, 2]. University students face various types of stress, such as academic requirements, time pressure, and social adaptations, and medical students may face other challenges, including high workload, time commitment, number of assessments, and the pressures of the clinical environment [3]. The lifestyle of medical students and their curriculum can lead to a high prevalence of mental illnesses among these students, which reduces the QOL of students [4]. Spiritual health, defined as the ability to experience and integrate meaning and purpose in life, is associated with improved well-being and QOL [5]. Spiritual health is recognized as a critical aspect of well-being, which includes a sense of purpose, meaning, and connection to something beyond oneself. It is an essential dimension of health that affects emotional, mental, and physical well-being [6]. From the point of view of Islam, spiritual health is the spiritual connection and connection of an individual with the Creator, which is the foundation of the peace of heart that frees man from anxieties, worries, and concerns and brings them mental security, and in the Quran and the traditions of the "Imams of Athar" (Peace Be Upon Them) it is expressed with expressions, such as peace and confidence of the heart [7]. Spiritual health can appear in different ways, including religious beliefs, personal philosophies, and connection with nature [8]. People with strong spiritual beliefs often experience higher levels of life satisfaction and flexibility. Spirituality can provide comfort in difficult times and act as a source of hope and strength. Several studies have shown a positive correlation between spiritual health and mental health outcomes. For example, people who engage in spiritual practices experience lower levels of anxiety and depression.

Integrating spiritual health into healthcare has received attention in recent years. The World Health Organization (WHO) recognizes the importance of spiritual well-being as part of comprehensive health care [9]. Healthcare providers are increasingly encouraged to consider patients' spiritual needs alongside their physical and mental health needs [8]. Addressing these needs increases patient satisfaction and helps improve health outcomes. Incorporating spiritual health into everyday life can be achieved through various practices. Meditation, prayer, and spending time in nature are effective ways to cultivate a person's spiritual well-being. Despite the benefits of spiritual health, it is often overlooked in conventional healthcare settings. Many health care providers may feel uncomfortable discussing spirituality with patients due to a lack of training or fear of crossing professional boundaries.

The necessity of this study is that spiritual health and spiritual intelligence are important factors that can have a great impact on the QOL, especially in stressful professions, such as medicine. Examining and analyzing these effects in medical students can help to identify solutions to improve their QOL and scientific and clinical performance; therefore, investigating and paying attention to spiritual health and spiritual intelligence and their effects on the QOL of medical students can not only help improve their academic quality and clinical efficiency, but also gives special importance to their mental and social health. This can ultimately lead to the production of high-quality doctors who are committed to serving society [10, 11].

Consequently, QOL is a complex construct that is influenced by physical health, psychological well-being, social relationships, and environmental factors. Understanding and improving QOL is essential to promote well-being and overall satisfaction in life. Future research should continue to examine the interaction between these dimensions to develop effective interventions that increase QOL [12-14].

The results of various studies have shown that spirituality and spiritual health are the best adaptive methods for solving problems caused by incurable diseases and cancers. Regarding coronary arteries, Reily et al. maintain the effect of spirituality on different aspects of life as a fundamental factor in creating a sense of hope, promoting adaptation and confrontation with pain and suffering caused by incurable diseases, and facing existential crises caused by life-threatening diseases [10].

Shahbazirad et al. [15] conducted a study to explain the role of spiritual health in the QOL of students. The results showed a significant positive relationship between spiritual health and QOL in students (r=0.244). There was a significant relationship between the QOL and the dimensions of spiritual health, that is, the existential dimension (r=0.199) and the religious dimension (r=0.255), and spiritual health could predict 15.3% of the variance of

QOL (P<0.001). There was no significant difference between the two groups of male and female students in the variables of QOL and spiritual health. Also, the results showed that most of the students were in the mid-level of spiritual health [15].

Also, various studies have shown that spirituality and having spiritual health increases the lifespan of people. Matthews found 350 to 450 studies in his lengthy review that showed that people with strong religious beliefs enjoyed better health, longevity, and QOL than those with weaker beliefs. The research conducted on the effect of religion on mental health has also indicated a positive relationship between the two; accordingly, out of 50 studies conducted on religious beliefs and mental health, 36(72%) indicate a positive correlation [16]. Students face various stresses during their studies, especially those who study far from their families. In some cases, an inherent resource that may help them is spirituality. Mohammadi et al. (2016) researched to find the effect of spirituality and strengthening a person's spiritual intelligence in reducing existing anxieties and improving QOL. Accordingly, spiritual intelligence is associated with overt anxiety, hidden anxiety, and students' QOL. Also, between the components of spiritual intelligence, including existential critical, personal meaning production, expanding the state of consciousness and transcendental awareness are correlated with QOL. Spiritual intelligence is correlated with anxiety (hidden and obvious) and also with the QOL of students [17]. Sahibal-Zamani et al. (2013) also showed that people with high spiritual intelligence transcend the physical and material limits, experience peak states of alertness and use spiritual resources to solve problems and control and eliminate anxiety; therefore, spiritual intelligence causes a person to gain a deep insight in the face of anxiety, events and incidents of life and not to be afraid of the difficulty of life and to search for logical and humane solutions for them with patience and thinking [18]. It has hope, motivation, and the ability to cope with stress. Many studies have been conducted worldwide to investigate the role of spirituality and religion in QOL and physical and mental health; however, no study has been done on the relationship between spiritual health and spiritual intelligence with QOL among medical students. Hence, this study determines the relationship between spiritual health and spiritual intelligence with QOL in medical students of Shiraz University of Medical Sciences.

The relationship between spiritual health, spiritual intelligence, and QOL has attracted increasing attention in recent years. Spiritual health, which is defined as the ability to experience and integrate meaning and purpose in life, is related to improving well-being and QOL [5]. Similarly, spiritual intelligence, which includes the capacity to access higher values and meanings, is associated with increased psychological functioning and resilience [1]. The purpose of this study is to investigate the effect of spiritual health and spiritual intelligence on the QOL of medical students of Shiraz University of Medical Sciences.

Methods

This was a cross-sectional study with a descriptive analytical design, and based on the research objectives, it can be considered an applied study. The statistical population of this research includes 350 medical students who are studying at the Shiraz University of Medical Sciences in 2024. This sample size was obtained from Cohen's formula. The inclusion criteria were being a student of Shiraz Medical School in the summer of 2024 and providing consent to participate in the study. Meanwhile, the exclusion criteria was not agreeing to participate in the study

Study implementation method

To collect the data, a questionnaire form, including questionnaires of spiritual health, spiritual intelligence, and QOL, was used. The questionnaire is made available in the attachment. Demographic status, including age, sex, educational level, native status and underlying psychiatric disease, was also asked at the beginning of the questionnaire.

Spiritual health questionnaire

The 48-question questionnaire of spiritual health is based on the religion of Islam made in the Iran Academy of Medical Sciences. In Amiri et al.'s study, the validity of this questionnaire was determined through content validity, and its reliability via the Cronbach α coefficient was 0.7 [13]. The spiritual health score is the sum of these two subgroups, the range of which is 48 to 240. The answers to the questions are scored based on a 5-point Likert scale [14].

Questionnaire of spiritual intelligence

Linda Hildebrant's 24-question spiritual intelligence questionnaire was used in this study. The score of spiritual intelligence is the sum of these four subgroups, ranging from 0 to 96. The answers to the questions are in the form of a 5-point Likert scale. Spiritual intelligence is divided into two levels: Low (0 to 48) and high (49 to

96) [19]. For subgroups, there is no leveling, and judging is done based on the obtained score. The higher the obtained score, the higher the spiritual intelligence. The reliability of this questionnaire has been reported using the Cronbach α coefficients of 0.75 to 0.89 in the study of Linda (2011) and the validity level of the questionnaire has been obtained at approximately 0.88 [20].

QOL Questionnaire (WHOQOL-brief)

The WHO commissioned a group to create a questionnaire to have consistency in research and measure the QOL. The result of this group's work was the 100-question QOL questionnaire (WHOQOL-100). A few years later, a short form was prepared to make this questionnaire easier to use. The WHO's 26-question QOL questionnaire is a brief questionnaire (WHOQOL-BREF) that measures a person's overall QOL. This scale was created in 1996 by a group of experts of the WHO and by adjusting the items of the 100-question form of this questionnaire. This questionnaire has 4 subscales and a total score. The subscales are physical health, mental health, social relationships, health of the surrounding environment, and an overall score. First, a raw score is obtained for each subscale, which must be converted to a standard score between 0 and 100 through a formula. A higher score indicates a higher QOL [21].

To check the validity and reliability of this questionnaire, a study was conducted on 1067 people of Tehran City, Iran. The participants were divided into two groups with chronic and non-chronic diseases. The reliability of the test for the subscales was obtained as follows: Physical health was 0.77, mental health was 0.77, social relations were 0.75 and environmental health was 0.84. Internal consistency was also calculated using the Cronbach α method, which is shown in Table 1 [21].

Results

A total of 350 students completed the questionnaires. As shown in Table 2, 50.6% of the study population were male and 49.4% were female. The majority of the studied population were in the clinical stage (53.7%), native (58.9%), male (50.6%), single (90.9%) and without underlying psychiatric disease (96.3%) and their mean age was 23.22±2.89 years (Table 2).

Table 3 shows the Mean±SD of the spiritual health of the studied population, which was 165.59±12.59, which was in the mean range (103-167). The score of spiritual health was significantly lower in people with a history of psychiatric illness (P<0.001).

Table 4 shows the Mean±SD of the spiritual intelligence of the studied population. The mean score of the spiritual intelligence of the studied population was 51.30±18.63, which was in the range of high spiritual intelligence (49-96). The score of spiritual intelligence was significantly lower in people with a history of psychiatric illness (P<0.001).

Table 5 shows the correlation coefficient between the QOL and its areas with spiritual health and spiritual intelligence. QOL had a direct and significant relationship with both spiritual health variables (P<0.001, r=0.881) and spiritual intelligence (P<0.001, r=0.775). This relationship was also seen in all demographic variables except in individuals with a history of psychiatric illness.

Discussion

The present study determined the relationship between spiritual health and spiritual intelligence with QOL in medical students of Shiraz University of Medical Sciences. The findings indicated that spiritual health and spiritual intelligence had a statistically significant relationship with QOL, such that the highest QOL was related to the group with high spiritual health and high spiritual intelligence, and low QOL had the highest prevalence in the group with low spiritual health and low spiritual intelligence. Since the research conducted on the relationship between Islamic spiritual health and intelligence with QOL has been limited, it is necessary to conduct more studies focusing on Islamic spirituality. For this purpose, a 48-question spiritual health questionnaire based on Islam developed at the Iranian Academy of Medical Sciences was used, while most studies have used the Palutzian and Ellison spiritual health questionnaire.

The QOL score in the current study was 46.18. It is expected that according to the prevailing religious and spiritual atmosphere, the level of spiritual health of people will be higher. Therefore, it is possible to increase the health level of students by planning and training in this area. The level of spiritual health and spiritual intelligence can lead to improving the QOL and providing better nursing care services. This is while in the study of Amiri et al. (2013) on students of a medical university in northeastern Iran, it was reported as 67.625 [22]. In the study of Soltani et al. (2010) on students of the University of Gilan, it was also shown that 51% of students have an mean QOL [23]. The difference in the estimated QOL in various domestic studies conducted on student populations can be understood through the differences in the populations studied and the questionnaires used.

Table 1. Calculation of internal consistency using Cronbach α methods

Subscales	Healthy Group (n=700)	Sick Group (n=367)
Physical health	0.70	0.72
Mental health	0.73	0.70
Social relations	0.55	0.52
Environmental health	0.84	0.72

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In the current study, QOL was statistically significantly associated with a history of psychiatric illnesses. The role of psychiatric problems in reducing QOL has been previously reported in some studies, and therefore, the aforementioned finding was expected [24]. Also, in the current study, native status, gender, marital status, educational level, and age did not have a significant relationship with QOL. This is while in the study of Pahlavan Kashi et al. (2024), there was a significant relationship between the place of residence and the QOL of dental students. In the aforementioned study, there was no significant difference between marital status, age, educational level, and gender in terms of QOL, which is in line with the current study [25]. The mean spiritual health score of the studied population was in the medium range, and the mean spiritual intelligence score was in the high spiritual intelligence range. Previously, in the study conducted by Kazemi (2022), the level of spiritual health in students of Qazvin University of Medical Sciences was medium [26]. Spiritual health and spiritual intelligence

Table 2. Demographic characteristics of the studied population

Qualitative Variables	Variable States	No. (%)
Degree	Basic sciences	108(30.9)
	Physiopathology	54(15.4)
	Clinical	188(53.7)
Age group (y)	18-21	101(28.9)
	22-24	111(31.7)
	Over 24	138(39.4)
Indigenous/non-indigenous status	Indigenous	206(58.9)
	Non-indigenous	144(41.1)
Gender	Male	177(50.6)
	Female	173(49.4)
Marital status	Single	318(90.9)
	Married	32(9.1)
Underlying psychiatric disease	Not having	337(96.3)
	Having	13(3.7)
Quantitative Variable		Mean±SD (Range)
Age (y)		2.89±23.22 (18-29)

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Table 3. Relationship between spiritual health score and demographic characteristics

Qualitative Variables	Variable States	Mean±SD	P
Degree	Basic sciences	164.54±12.02	0.151
	Physiopathology	166.57±12.07	
	Clinical	165.90±13.07	
Age group (y)	18-21	164.67±11.31	0.071
	22-24	166.94±12.26	
	Over 24	165.17±13.69	
Native/non-native status	Indigenous	165.20±13.69	0.817
	Non-indigenous	166.13±10.84	
Gender	Male	166.33±11.95	0.437
	Female	164.82±13.21	
Marital status	Single	166.02±11.88	0.510
	Married	161.31±17.92	
Underlying psychiatric illness	Not having	167.35±8.91	0.001>
	Having	120.00±7.21	

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Table 4. Relationship between QoL score and demographic characteristics

Qualitative Variables	Variable States	Mean±SD	P
Degree	Basic sciences	48.68±19.34	0.294
	Physiopathology	53.22±17.81	
	Clinical	52.25±18.38	
Age group (y)	18-21	48.16±18.91	0.079
	22-24	54.22±18.12	
	Over 24	51.24±18.58	
Native/non-native status	Indigenous	51.68±18.67	0.708
	Non-indigenous	50.75±18.62	
Gender	Male	52.23±18.17	0.381
	Female	50.35±19.09	
Marital status	Single	51.29±18.64	0.960
	Married	51.37±18.82	
Underlying psychiatric illness	Not Having	52.35±18.15	0.001>
	Having	24.0±5.01	

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Table 5. Correlation coefficient between spiritual health score and spiritual intelligence with QoL

Qualitative Variables	Variable States	Spiritual Health		Spiritual Intelligence	
		Correlation Coefficient	P	Correlation Coefficient	P
Educational level	Basic sciences	0.863	0.001>	0.795	0.001>
	Physiopathology	0.909	0.001>	0.759	0.001>
	Clinical	0.876	0.001>	0.768	0.001>
Age group (y)	18-21	0.862	0.001>	0.800	0.001>
	22-24	0.862	0.001>	0.719	0.001>
	Over 24	0.895	0.001>	0.795	0.001>
Native/non-native status	Indigenous	0.895	0.001>	0.772	0.001>
	Non-indigenous	0.864	0.001>	0.785	0.001>
Gender	Male	0.888	0.001>	0.779	0.001>
	Female	0.871	0.001>	0.764	0.001>
Marital status	Single	0.886	0.001>	0.777	0.001>
	Married	0.821	0.001>	0.762	0.001>
Underlying psychiatric illness	Not having	0.875	0.001>	0.758	0.001>
	Having	0.072	0.816	-0.197	0.518

did not have a significant relationship with all demographic characteristics except for a history of psychiatric diseases. According to the results of the study of Jafari et al. (2010), the spiritual health of individuals is not dependent on gender [27]. As well as the study of Rahman et al. women had greater spiritual health [28]. In a study by Raghib (2009) conducted on students at the University of Isfahan, spiritual intelligence was not significantly associated with any demographic characteristics except marital status, which is consistent with the findings of

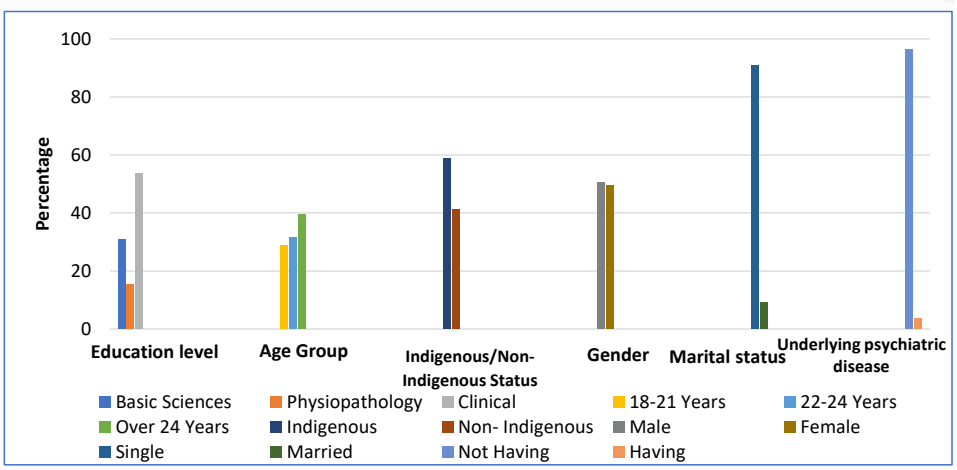

Figure 1. Demographic characteristics

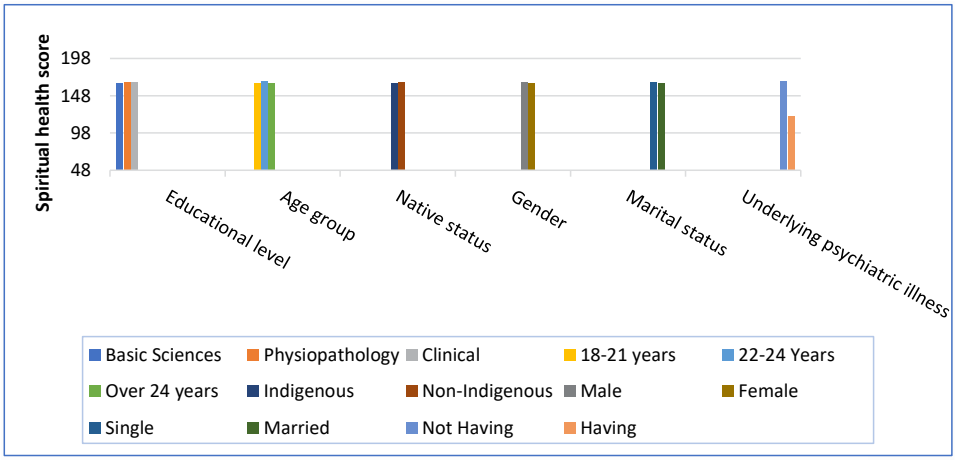

Figure 2. QoL

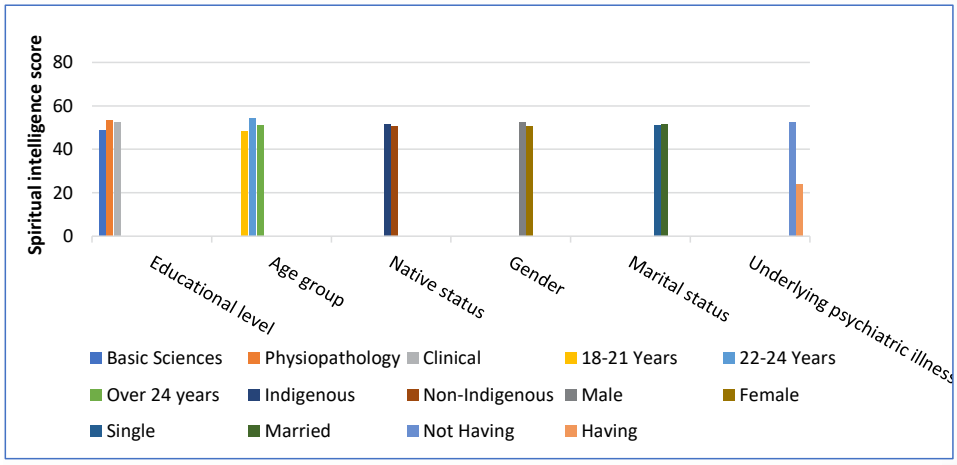

Figure 3. Spiritual intelligence

this study [29]. Regarding the results obtained, spirituality has exceeded the boundaries of demographic characteristics, and the scores of spiritual health and spiritual intelligence have been obtained almost equally.

Conclusion

The present study showed that there was a significant relationship between health and spiritual intelligence and QOL in medical students of Shiraz University of Medical Sciences. Therefore, promoting spiritual health and spiritual intelligence can be considered one of the approaches to improving the QOL in student populations.

Study limitations

The current study also faced limitations. The reluctance of some students to participate in the study and fill in the questionnaire eliminated the possibility of conducting the study in a larger sample size. Also, the lack of internal studies with a questionnaire similar to the current study eliminated the possibility of a comparative comparison of the findings and achieving the progress of the three variables of QOL, spiritual health, and spiritual intelligence over time.

Future study recommendations

It is recommended that more domestic studies with a larger sample size and data collection tools similar to the current study be conducted to measure the three variables of spiritual health, spiritual intelligence and QOL in the student population so that it is possible to monitor these two variables over time and the results obtained are more reliable. It is also recommended that low spiritual health and spiritual intelligence be considered by university officials as one of the possible causes in student popula-

tions that have a low QOL. Also, due to the limitations of studies conducted focusing on Islamic spirituality, it is recommended that Islamic spirituality be considered by researchers as a more specific concept than spiritual health in future studies.

Ethical Considerations

Compliance with ethical guidelines

This study was approved by the Ethics Committee of Shiraz University of Medical Sciences, Shiraz, Iran (Code: IR.SUMS.MED.REC.1403.226).

Funding

This article was taken from the general doctorate thesis of Alireza Maleki, approved by the Faculty of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran (Code: 30394).

Authors' contributions

All authors contributed equally to the conception and design of the study, data collection and analysis, interpretation of the results and drafting of the manuscript. Each author approved the final version of the manuscript for submission.

Conflict of interest

The authors declared no conflicts of interest.

Acknowledgments

The authors thank the Vice Chancellor for Research of Shiraz University of Medical Sciences, Shiraz, Iran, for supporting this project.

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