



Examining the relationship between spiritual health and mental health with drug addiction among the student population in central Iran

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Abstract

Background and aims: It has been nearly a century since human society has been determined to find a fundamental solution to the problem of drug addiction, as one of the fundamental problems of human life. Therefore, this study was conducted to determine the relationship between spiritual and mental health and the tendency to addiction in the student population of Kashan.

Methods: In this Analytical cross-sectional research, the statistical population included the 600 participants of students aged 18 to 35 in Kashan city, and Simple Random Sampling was done from universities of medical sciences, Islamic Azad University, and Kashan University in 2018-2019. The students completed questionnaires about spiritual health, mental health, and the tendency to use drugs, and the results obtained after collecting and recording were analyzed by statistical tests using SPSS version 26 software.

Results: The average scores of the students in terms of mental health, spiritual health, spiritual health from the perspective of Islam, and readiness for addiction were 1.01 ± 0.70 , 75.10 ± 20.83 , 86.43 ± 21.26 and 30.95 ± 20.34 , respectively. Spiritual health, spiritual health from the perspective of Islam, and readiness for addiction were related to the age ($P < 0.05$), gender, educational level ($P < 0.05$), and marriage ($P < 0.001$) of the students.

Conclusion: Considering the positive and significant role of spiritual health in mental health, strengthening the spiritual dimension can improve mental health, reduce mental disorders, reduce the desire to use drugs, and continue the course of addiction treatment.

Keywords: Spiritual health, Mental health, Drug addiction, Student

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Introduction

Drug abuse among students is a public health concern. The use of drugs at this young age makes one susceptible to drug dependence later in adulthood. Research has indicated that the use of licit and illicit drugs among adolescents has enhanced worldwide. The age of initiation to drug abuse is reducing as it is reported that all forms of addiction are highest in the age group of 20–29 years (1). In Iran, drug abuse is one of the critical public health, treatment, social, and cultural issues, so more than 90% of Iranian people expressed their concerns about drug abuse in society. Statistics demonstrate that the occurrence rate of drug abuse was 2.65% among Iranians aged 15 to 64 years (2).

Substance abuse is accompanied by other unhealthy

behaviors and problems such as mental disorders, aggression, violence, antisocial behaviors, academic failure, lack of interest in education, suicide attempts, and prostitution, which shows the problem's importance (3,4). Researchers are looking to identify influential factors in preventing substance abuse. It is possible that some factors as protective and others as risk factors can delay or accelerate the development of drugs (5). One of the protective factors is religiosity and spirituality, which has been mentioned in some research as a shield against substance addiction (6-8)

Spiritual health has been defined as a power that can incorporate all aspects of an individual's health. It is a central core that links to and underlies all other facets of a person's health and helps them live a meaningful life

(9). In religious psychology, in terms of the importance of religion in all aspects of life, psychological factors of religion are examined. The relationship between religion and personality has been a topic of interest, and acceptable results have been reached. As an example, Wienemann et al (10) showed that religion causes a feeling of well-being; it seems that religious attitude affects human behavior (11). Also, Schuler et al (12) state that religious beliefs lead to improved health, quality of life, and increased self-esteem. It is among the factors that can play an influential role in preventing and reducing mental disorders, as well as the problems caused by them, such as suicide, drug addiction, depression, and anxiety.

In addition, mental health is one of the underlying factors in preparing for addiction in different people (13). Research has shown that more than half of people with addiction disorders also have mental disorders (14). According to the definition of the World Health Organization, mental health is: "balanced and harmonious communication with others, modification of the personal and social environment and resolution of conflicts and personal desires in a logical, fair and appropriate manner" (15). Many mental disorders are associated with an increased risk of later substance use conditions, but essential differences in these associations are observed across the categories of use, abuse, and dependence on abuse (16). Studies have shown that people's mental health plays a determinant role in their quality of life and protects them from dangerous factors, so people with mental health issues are less likely to abuse drugs (16-18).

Through establishing a moral order, providing opportunities to acquire learned competencies, and preparing social laws, religion plays an influential role in the occurrence or prevention of social and moral problems, physical health, and even mental health issues (19-22). In one survey, 85% to 90% of people answered that religion helps them cope with stress and is a source of mental calmness. Meanwhile, an essential part of people who turn to drugs, instead of using spirituality, take help from drugs to reduce pain and suffering and cope with stress (23). In addition, the research results show that spirituality and religious beliefs play an essential role in preventing and recovering addiction. Also, research shows that many recovering drug addicts attribute their recovery to spirituality in the first place, and religious and spiritual beliefs play an important role in relapse prevention (20).

On the other hand, other research results show that religious beliefs are an important predictive factor for drug use in the future, and non-religious people are more exposed to drug use in the future than others; some research also shows opposite results. In another study, Brown et al showed that religiousness protects against risky behaviors such as smoking, alcohol, marijuana, and cocaine (24). In similar results, Nonnemaker et al found that people's religiousness is a protective factor against the use of alcohol, marijuana, and cocaine (25). In a study on Tehran University students by Jamali et al, they

investigated the predictive power of spiritual experiences and thrill-seeking. The results showed that predicting that people with high excitement will fall into a disorder like addiction in the future would not be an entirely reasonable prediction. However, this study of Jamali emphasizes the role of spiritual experiences in the tendency to use drugs; in fact, we can expect that with the increase of spiritual experiences, we will witness a decrease in the tendency to addiction (26). Also, the results of Heinz and colleagues' study showed that Spirituality enhances the potential to adapt, reduces stress, and enhances resilience before stress (27).

Therefore, considering the unfortunate increase in addiction statistics and the danger of the destruction of the country's young generation and future builders, and considering the role of colonialism and cultural invasion on the one hand, and the weak performance and measures taken in the field of cultural struggle and the increase in public awareness on the other hand, and the danger of spreading this ominous phenomenon and the destruction of the country's creative future makers, the present research seeks to be able to investigate some of the causes and issues related to addiction. According to the above information, this study was conducted to explain whether there is a relationship between spiritual health and mental health with the tendency to addiction in the student population of Kashan so that its results can be used in effective planning.

Methods

This cross-sectional study has been approved by the Kashan University of Medical Sciences ethics committee (IR.KAUMS.MEDNT.REC.1398.013). The statistical population of this research is all students of Kashan universities. From this community, 750 people were selected by random sampling from different universities in Kashan city (University of Medical Sciences, Kashan University, and Islamic Azad University). The sampling method was simple, random, and multi-stage from Kashan University of Medical Sciences, Kashan University, and Kashan Islamic Azad University.

The included subjects were aged 18 to 35 years, being a student and studying in Kashan city in 2019. In this study, from the universities of medical sciences, Islamic Azad University, and Kashan University, 250 people from each university were enrolled in the study at associate, bachelor, master, and doctorate levels. The tools used in this study included questionnaires for demographic information, spiritual health, mental health (symptom checklist SCL-90-R), and desire for drugs (Iranian Addiction Potential Questionnaire, IAPS).

Study inclusion criteria: the age was 18 to 35 years, and being a student and studying. Also, the exclusion criteria of the study It is an incomplete questionnaire and a lack of cooperation.

The instruments used in the study include the following: Mental Health Questionnaire: In this research, to

measure mental health, the SCL90 designed by Drogatis et al, which includes 90 questions in a 5-point Likert scale, is used. This questionnaire measures the mental health of the subject in 9 subscales. These subscales include depression, anxiety, self-morbidity, obsession, interpersonal sensitivity, aggression, paranoia, phobias and psychosis (28). Each item is graded from 1 to 5 according to the severity (none, mild, moderate, severe, and extreme). The scores of these 90 items were summed to create a total score, and the symptoms were regarded as positive when the total score exceeded 160 points. In addition, each factor was scored (factor score = total score of all items contributing to the factor/number of items contributing to the factor), and a factor score of ≥ 2 indicated positive symptoms.

The content validity of this questionnaire was checked and confirmed by Bagheri in 2013 (29). The calculated alpha coefficient for the entire questionnaire was 0.89.

Spiritual health questionnaire: Amiri and colleagues' spiritual health questionnaire was used in this research. With 48 items, this questionnaire was recognized as necessary, relevant, and understandable by the experts and the target community. This questionnaire showed the existence of 6 factors in the structure of the formulated items, and the optimal model was explained in the form of two cognitive-emotional and behavioral components. Each item is scored based on the Likert scale from 1 (completely agree) to 5 (completely disagree). Then, the scores are changed to the format of 0 to 100 (1-100, 2-75, 3-50, 4-25, 5-0) so that the higher score indicates a higher level of spiritual health.

The content validity of the spiritual health questionnaire was checked and confirmed by Amiri et al. The internal consistency method checked the tool's reliability, and Cronbach's alpha was reported to be more than 0.7 (29).

Addiction tendency questionnaire: In this research, the IAPS by Wade et al, which contains 41 questions, was used to measure addiction tendencies. Efforts have been made to determine its authenticity in Iran, which Zargar made according to Iranian society's psychological and social conditions. This questionnaire comprises two factors and has 36 items plus five lie detector items. This questionnaire is a combination of two active and passive preparation factors. Active readiness is related to antisocial behaviors, desire to use drugs, positive attitude to drugs, depression, and excitement, and in the second factor, most substances are related to lack of self-expression and depression. The validity and reliability of the addiction readiness questionnaire have been proven by Zargar et al in 2013,(30) and the reliability of the scale was calculated using Cronbach's alpha method of 0.90, which is within the optimal range.

In this study, all the confidential information of individuals was protected. In order to conduct this study, the research and technology vice-chancellor introduced the presenters to the research units; then, the research objectives were explained to the units, and

informed consent was obtained from the participants. This questionnaire has a lie detector with questions 2, 15, 21, and 33. In order to get the overall score of the three-part question, the total scores of each question (except for the lie detector scale) must be added together. This score will have a range from 0 to 108. Higher scores mean the respondent is more prepared for addiction and vice versa (29).

Descriptive statistics (prevalence, frequency percentage, cumulative frequency percentage, mean, standard deviation, and standard error of the mean) were used to describe and analyze the data in the research, as well as inferential statistical methods such as Pearson's correlation coefficient test and bivariate and multivariate regression analysis were used to test the hypotheses.

SPSS version 16 software was used for data analysis, and the significance level was considered less than 0.05.

Results

Descriptive and demographic characteristics of the students under study

A total of 617 students from three Kashan University of Medical Sciences (215 people), Islamic Azad University of Kashan (204 people), and Kashan Ministry of Science (198 people) participated in this study. The reason for dropping out of the study is the refusal to complete the questionnaire and participate in the research.

The demographic findings show that 388 (62.9 %) of the participating students were male. The average age of the studied students was 23.79 ± 3.90 . 146 (24%) students are married, and 358 (58%) studied students are studying at the undergraduate level.

Determining the condition of students in terms of mental health, spiritual health, and addiction readiness

The condition of the students in terms of mental health, spiritual health, and the desire for addiction is shown in Table 1.

The findings of Table 1 show that the average score of the total students in terms of mental health, spiritual health, spiritual health from the perspective of Islam, and readiness for addiction is 1.01 ± 0.70 , 75.10 ± 20.83 , 86.43 ± 21.26 , 30.95 ± 20.34 respectively.

Investigating the relationship between mental health and spiritual health and addiction readiness

The relationship between mental and spiritual health and addiction readiness is shown in Table 2.

The findings of Table 2 show that mental health ($P < 0.01$, $R = 0.585$), spiritual health ($P < 0.01$, $R = -0.399$), and spiritual health from the perspective of Islam ($P < 0.01$, $R = -0.303$) have a significant relationship with readiness for addiction so that with a decrease in the mental health score (improvement of mental health) in students, the level of readiness for addiction in them decreases. Also, with the increase in the scores of the variables of spiritual health and spiritual health from the perspective of Islam in

Table 1. The state of students in terms of mental health, spiritual health, and addiction readiness

Variable		Standard deviation ± mean (maximum–minimum)
Mental health	Corporealization	0.75 ± 0.92 (2.92 – 0)
	Incontinence obsession	0.74 ± 1.22 (2.90 – 0)
	Sensitivity in mutual relationships	0.73 ± 1.17 (3.11 – 0)
	Depression	0.79 ± 1.07 (3.00 – 0)
	Anxiety	0.78 ± 0.86 (3.10 – 0)
	Aggression	0.73 ± 0.94 (3.00 – 0)
	Fear	0.85 ± 0.75 (3.43 – 0)
	Paranoid thinking	0.87 ± 1.29 (3.67 – 0)
	Psychosis	0.79 ± 0.88 (3.30 – 0)
	Total score	1.01 ± 0.70 (3.07 – 0)
Spiritual health	Intuition	22.55 ± 78.54 (100 – 6.25)
	Tendency	22.73 ± 76.62 (100 – 0)
	Behavior	20.76 ± 70.12 (100 – 3.75)
	Total score	75.10 ± 20.83 (100 – 3.33)
Spiritual health from the perspective of Islam	Belief system	8.07 ± 23.16 (30 – 5)
	Intellectual system	7.40 ± 23.02 (30 – 5)
	Moral system	4.46 ± 20.20 (30 – 8)
	Life style	4.10 ± 20.05 (30 – 5)
	Total score	86.43 ± 21.26 (120 – 27)
Preparation for addiction	Active readiness for addiction	16.55 ± 21.87 (84 – 0)
	Passive preparation for addiction	5.78 ± 10.32 (27 – 0)
	Total score	30.95 ± 20.34 (108 – 0)

Table 2. Investigating the relationship between mental health and spiritual health and addiction readiness

Variable	Preparation for addiction	
	Correlation coefficient	P value*
Mental health	0.585	0.000
Spiritual health	-0.399	0.000
Spiritual health from the perspective of Islam	-0.303	0.000

* Pearson's correlation coefficient test.

students, the degree of readiness for addiction decreases.

The condition of students in terms of the total score of mental health, spiritual health, and addiction readiness according to demographic variables

The condition of the students in terms of the total score of mental health, spiritual health, and addiction readiness according to demographic variables is shown in Table 3.

The results of Table 3 show that mental health and spiritual health have a significant relationship with the gender of students, so the average mental health among male students was significantly lower (better mental health) than among female students ($P=0.023$, $R=-0.019$); also, the average spiritual health among male students was significantly higher than female students ($P=0.001$, $R=-0.271$).

Among the other findings in Table 3, it can be mentioned that there is a significant inverse relationship between spiritual health, spiritual health from the perspective of

Islam ($R=-0.088$), and readiness for addiction with the age of the students ($P<0.05$, $R=-0.103$).

Table 3 shows that the place of study and the university have no relationship with mental health, spiritual health, or spiritual health from the point of view of Islam; students' tendency towards addiction and the level of mental health of all students in all universities has been similar.

The findings of Table 3 also show that mental health, spiritual health from the perspective of Islam, and readiness for addiction have a significant relationship with the marital status of students so that the average mental health among married students is significantly lower (better mental health) than single students ($P=0.014$). In addition, the average spiritual health from the perspective of Islam among married students was significantly higher than that of single students ($P=0.014$). In addition, married students' average readiness for addiction was significantly lower than that of single students ($P<0.001$).

From the findings of Table 3, it can also be seen that mental health, spiritual health, and spiritual health from the perspective of Islam have a significant relationship with students' educational level that the average mental health among PhD students was significantly lower (better mental health) than master's and dental students ($P<0.05$). In addition, the average spiritual health and spiritual health from the perspective of Islam among PhD students is significantly lower than associate, master, and medical students ($P<0.05$). In addition, the average spiritual health from the perspective of Islam among dental students is

Table 3. The condition of students in terms of the total score of mental health, spiritual health, and addiction readiness according to demographic variables

Variable		Mental health	Spiritual health	Spiritual health from the perspective of Islam	Preparation for addiction
University of study	University of Medical Sciences	1.01±0.70	75.04±20.86	86.83±21.38	30.84±20.29
	Islamic Azad university	1.02±0.70	74.99±20.90	85.97±21.37	31.12±20.45
	Ministry of Science	1.01±0.70	75.27±20.84	86.46±21.10	30.90±20.39
	<i>P</i> value*	0.982	0.990	0.919	0.989
Gender	Man	0.96±0.69	77.23±19.82	87.67±22.23	32.05±22.19
	Woman	1.10±0.71	71.48±22.02	84.32±19.36	29.10±16.62
	<i>P</i> value**	0.023	0.001	0.058	0.061
Age	Correlation coefficient	-0.019	-0.271	-0.088	-0.103
	<i>P</i> value***	0.640	0.000	0.029	0.011
Marital status	Single	1.05±0.69	75.42±20.87	85.26±21.24	33.17±20.66
	Married	0.89±0.72	74.04±20.76	90.18±20.94	23.79±17.51
	<i>P</i> value**	0.014	0.485	0.014	0.000
Grade	Associate degree	0.94±0.70	79.14±16.95	90.54±18.87	30.91±19.40
	Bachelor's degree	0.99±0.66	73.87±20.95	84.62±21.39	30.49±19.95
	Master's degree	1.22±0.88	77.78±20.84	91.39±16.76	32.02±19.49
	Ph.D	0.51±0.50	58.39±23.59	76.58±25.84	19.33±13.06
	Doctor of Medicine	1.03±0.71	78.19±20.14	90.88±22.17	31.39±22.84
	Doctor of Dentistry	1.25±0.74	73.25±24.08	80.48±22.98	37.18±21.77
	<i>P</i> value*	0.004	0.012	0.007	0.193

* ANOVA; ** Independent t-test; *** Correlation test.

significantly lower than among associate, master, and medical students ($P < 0.05$).

Discussion

This current study aims to determine the relationship between spiritual and mental health and the tendency to addiction in the student population of Kashan. Based on the obtained results, the average score of the total students in terms of mental health, spiritual health, spiritual health from the perspective of Islam, and readiness for addiction is, respectively, 1.01 ± 0.70 , 75.10 ± 20.83 , 86.43 ± 21.26 , and 30.95 ± 20.34 and it is at a medium level.

Patients who received spirituality-based interventions mentioned spirituality as an essential factor in reducing temptation and high-risk behaviors such as AIDS and increasing hope and happiness (20).

The results of Morjaria and Orford's research show that a purposeful and meaningful life, spiritual activities such as praying and participating in religious gatherings prevent heavy drug use during recovery (31).

In a study conducted by Naghibi et al (32) to determine the relationship between spiritual health and mental health in methadone maintenance patients affiliated with private and public centers in Sari City, the average spiritual health score was 43.29. The average mental health score was 41.26, which was lower than the results obtained in the present study. This study's lower mental health scores can be due to the difference in the statistical population between the two studies. In another study conducted by Shahabinejad et al (33) to determine the level of mental health of students using the SCL90 questionnaire, 36% of the students were healthy in terms of general symptoms

of mental disorders, and 64% were suspected of mental disorders, of which 50.9% had mild disorders, 10.9% had moderate disorders, and 2.2% had severe disorders. Also, in line with the results of this study, in the research conducted by Mostafazadeh and Asadzadeh, 94.73% (72 people) of midwifery students had spiritual health at an average level (34).

Based on the findings of this study, there is a significant relationship between students' mental and spiritual health and their gender. So, the average mental health among male students was significantly lower (better mental health) than female students. Also, the average spiritual health among male students was significantly higher than female students. Similar to the findings, in the study of Hojjati et al (35), it was found that there was a significant relationship between mental health and gender, so men had higher mental health. In the study of Ghodasara et al (36), they stated that gender is known to be one of the most important influencing factors on students' mental health. In other evidence, Asadi et al (37), Rafati et al (38), Bíró and colleagues' study (39), and Chen et al (40), in line with the present study, showed that female students had more mental disorders than male students, more restrictions on girls before entering the university in our society, biological and hormonal factors, environmental stress and their being more sensitive to their surroundings are among the factors that predispose them to emotional and mental problems. However, contrary to the results obtained in the present study regarding gender, in the study by Kolahi Hamed (41) and Shahriari et al (42), no statistically significant difference was found between the gender of the participants, the tendency to use drugs, and

the prevalence of mental disorders.

Based on the results of this study, there was a significant inverse relationship between spiritual health, spiritual health from the perspective of Islam, and addiction readiness with the age of students. In a research conducted by Hsiao et al, it was shown that age and spiritual health have a positive relationship. The age factor has a significant effect on spiritual health, and as a person grows and matures, the ability to excel usually increases (43).

In this study, mental health, spiritual health from the perspective of Islam, and readiness for addiction have a significant relationship with the student's marital status. So, the average mental health among married students was significantly lower (better mental health) than single students. The results obtained in this research were similar to those obtained in the study of Ansari et al (44) that the symptoms of mental disorders in single people were significantly more than in married people. In the results of López-Bárcena and colleagues' study (45), it is mentioned that the mental health of married students is higher than that of single students. In addition, according to the results of Asadi and colleagues' study (37) and Imani and colleagues' study (46), no significant relationship was found between marital status and the prevalence of mental disorders. Despite the different results obtained in many studies, the difference in the results can be attributed to the difference in the statistical population, in terms of socio-cultural differences and the difference in the role of the family in the individual's mental health in different studies.

Based on the findings of the upcoming study, mental health, spiritual health, and spiritual health from the perspective of Islam have a significant relationship with the student's educational level, so the average mental health among Ph.D. students was significantly lower (better mental health) than that of Master's and dental students. In addition, the average spiritual health and spiritual health from the perspective of Islam among Ph.D. students is significantly lower than that of associate, master, and medical students. In a study conducted by Bahamin et al (47) in 2018 to develop a model for predicting mental health and the tendency to use drugs concerning the mediating role of spirituality, they stated that people's education and level of education have nothing to do with their spiritual health and drug addiction. The difference in the findings of different studies can be the difference in the statistical population and many confounding factors in evaluating the results.

According to the findings of this study, mental health, spiritual health, and spiritual health from the perspective of Islam have a significant relationship with addiction readiness. By decreasing the mental health score (improvement of mental health) in students, the level of readiness for addiction will decrease. Also, with the increase in the scores of the variables of spiritual health and spiritual health from the perspective of Islam in students, the degree of readiness for addiction decreases. In

similar results, Nonnemaker et al (25) found that people's religiosity protects against alcohol, marijuana, and cocaine use. Also, in a study conducted by Amirafzali and Shirazi (48) in 2016, they stated that along with the usual methods of quitting spiritual health and religiosity training and self-efficacy training, especially in people prone to addiction, it can play a role in reducing addiction dependence. In a study conducted in Brazil (49) to determine the preventive role of religion in drug abuse among Brazilian students, The results showed that the consumption of drugs by those students who did not regularly attend religious ceremonies was significantly higher than the other group. This study showed that religiousness and regular attendance at religious ceremonies are strong protective factors against drug abuse. Merrill et al (50) showed in their research that factors such as frequency of church attendance, high level of religiosity of family members and parents, and frequency of family religious discussions have a supportive effect against drug use in adolescents and young people. The highest consumption of tobacco, marijuana, and other illegal substances was observed in people with less religious orientations. Family attendance in church and higher levels of parents' religiosity were also significantly related to less consumption of the mentioned substances (51). Also, in another study of 250 at-risk women conducted by Klein et al (52), the results showed that women with higher religiosity reported less use of illegal drugs.

One of the limitations of this study is the use of self-report questionnaires, which may need to be more honest for the participants to complete the questionnaires. The incomplete information in the questionnaires was one of the other limitations of this study, in which case, the participant would have been excluded from the study. Considering the importance of the living environment and the presence of the family in preventing drug addiction, it is recommended that in future studies, the effect of the residence factor and the nativeness of the students should also be considered in the studies. Conducting more studies with a larger sample size is recommended to achieve definitive results.

Conclusion

In summary, the findings of this study showed that factors such as mental health and spiritual health play a crucial role in predicting people's readiness for addiction, and it is necessary to pay attention to these factors in prevention programs, especially in universities, which are holding different programs for the prevention of addiction. Based on the results obtained, with the increase of spiritual health and spiritual health from the perspective of Islam in students, the level of readiness for addiction decreases. On the other hand, in addition to the importance of addiction for the whole society, the results of this study can be used by centers and organizations that are directly involved with the problem of addiction (such as education organizations, universities, police force, addiction

treatment centers, welfare, etc). Considering the positive and meaningful role of spiritual health in mental health, strengthening the spiritual dimension can improve mental health, reduce mental disorders, and reduce the desire to use drugs and continue addiction treatment.

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Authors' Contribution

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Competing Interests

The authors have no competing interests to declare.

Consent to Publication

Not applicable

Data Availability Statement

The datasets generated and/or analyzed during the current study are not publicly available because the funding body owns the intellectual property. They may be available from the corresponding author on reasonable request containing the approval from the associated funding body.

Ethical Approval

At the beginning of the questionnaire distribution session, the purpose of the study was explained to the participants, and they were assured about the anonymity and confidentiality of their responses. All participants gave their signed written informed consent letters. The study protocol was approved by the Ethics Committee of Kashan University of Medical Sciences "approval no. IR.KAUMS.MEDNT.REC.1398.013". All procedures performed in studies involving human participants were following the ethical standards of the institutional and national research committee and with the 1964 Helsinki Declaration and its later amendments.

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References

1. Mbuthia G, Wanzala P, Ngugi CW, Nyamogoba HD.

- A qualitative study on alcohol and drug abuse among undergraduate (university students) in the coastal region of Kenya. *Afr J Health Sci.* 2020;33(1):38-48.
2. Babaei Heydarabadi A, Ramezankhani A, Barekati H, Vejdani M, Shariatinejad K, Panahi R, et al. Prevalence of substance abuse among dormitory students of Shahid Beheshti University of Medical Sciences, Tehran, Iran. *Int J High Risk Behav Addict.* 2015;4(2):e22350. doi: [10.5812/ijhrba.22350v2](https://doi.org/10.5812/ijhrba.22350v2).
3. Ridenour TA, Bray BC, Cottler LB. Reliability of use, abuse, and dependence of four types of inhalants in adolescents and young adults. *Drug Alcohol Depend.* 2007;91(1):40-9. doi: [10.1016/j.drugalcdep.2007.05.004](https://doi.org/10.1016/j.drugalcdep.2007.05.004).
4. Najafipour H, Masoumi M, Amirzadeh R, Rostamzadeh F, Foad R, Shadkam Farrokhi M. Trends in the prevalence and incidence of opium abuse and its association with coronary artery risk factors in adult population in Iran: findings from Kerman Coronary Artery Disease Risk Factors study. *Iran J Med Sci.* 2022;47(4):328-37. doi: [10.30476/ijms.2021.89898.2065](https://doi.org/10.30476/ijms.2021.89898.2065).
5. Real T, Cruz SL, Medina-Mora ME, Robles R, González H. Inhalant addiction. In: El-Guebaly N, Carrà G, Galanter M, Baldacchino AM, eds. *Textbook of Addiction Treatment: International Perspectives.* Cham: Springer; 2021. p. 281-306. doi: [10.1007/978-3-030-36391-8_20](https://doi.org/10.1007/978-3-030-36391-8_20).
6. Esmaeili Nadimi A, Pour Amiri F, Sheikh Fathollahi M, Hassanshahi G, Ahmadi Z, Sayadi AR. Opium addiction as an independent risk factor for coronary microvascular dysfunction: a case-control study of 250 consecutive patients with slow-flow angina. *Int J Cardiol.* 2016;219:301-7. doi: [10.1016/j.ijcard.2016.06.034](https://doi.org/10.1016/j.ijcard.2016.06.034).
7. Ziaee M, Hajizadeh R, Khorrami A, Seppehvand N, Momtaz S, Ghaffari S. Cardiovascular complications of chronic opium consumption: a narrative review article. *Iran J Public Health.* 2019;48(12):2154-64.
8. Meng SQ, Cheng JL, Li YY, Yang XQ, Zheng JW, Chang XW, et al. Global prevalence of digital addiction in general population: a systematic review and meta-analysis. *Clin Psychol Rev.* 2022;92:102128. doi: [10.1016/j.cpr.2022.102128](https://doi.org/10.1016/j.cpr.2022.102128).
9. Hsiao YC, Chien LY, Wu LY, Chiang CM, Huang SY. Spiritual health, clinical practice stress, depressive tendency and health-promoting behaviours among nursing students. *J Adv Nurs.* 2010;66(7):1612-22. doi: [10.1111/j.1365-2648.2010.05328.x](https://doi.org/10.1111/j.1365-2648.2010.05328.x).
10. Wienemann E, Wartmann A. [Alcohol prevention in the workplace: current workplace concepts for addiction prevention and addiction assistance programmes]. *Bundesgesundheitsblatt Gesundheitsforschung Gesundheitsschutz.* 2021;64(6):688-96. doi: [10.1007/s00103-021-03337-6](https://doi.org/10.1007/s00103-021-03337-6). [German].
11. Patil RC, Tavaragi MS, Sushma C. Inhalant abuse in adolescents in North Karnataka: a case series. *Journal of Psychiatry Spectrum.* 2022;1(2):133-5. doi: [10.4103/jopsys.jopsys_1_22](https://doi.org/10.4103/jopsys.jopsys_1_22).
12. Schuler MS, Ramchand R. Examining inhalant use among sexual minority adults in a national sample: drug-specific risks or generalized risk? *LGBT Health.* 2023;10(1):80-5. doi: [10.1089/lgbt.2022.0042](https://doi.org/10.1089/lgbt.2022.0042).
13. Baghban Baghestan E, Ghoddousinejad J. A comparison of mental health status between students of two faculties of Alzahra University: physical education vs. educational sciences and psychology. *Depiction of Health.* 2011;2(3):33-7.
14. Alaghemandan H, Ghaffari Darab M, Khorasani E, Namazi E, Maniyan MH, Barati M. Personality traits and their relationship to demographic features in addicts referring to a drug rehabilitation center in the city of Isfahan, Iran. *Iran J Public Health.* 2015;44(4):551-60.
15. World Health Organization (WHO). *World Health Statistics 2016 [OP]: Monitoring Health for the Sustainable Development Goals (SDGs).* WHO; 2016.

16. Swendsen J, Conway KP, Degenhardt L, Glantz M, Jin R, Merikangas KR, et al. Mental disorders as risk factors for substance use, abuse and dependence: results from the 10-year follow-up of the National Comorbidity Survey. *Addiction*. 2010;105(6):1117-28. doi: [10.1111/j.1360-0443.2010.02902.x](https://doi.org/10.1111/j.1360-0443.2010.02902.x).
17. Sohrabi F, Mamsharifi P, Rafezi Z, A'azami Y. Predicting addiction potential based on mental health, social support and neuroticism and agreeableness personality traits. *Iranian Journal of Psychiatric Nursing*. 2019;6(6):57-66. doi: [10.21859/ijpn-06067](https://doi.org/10.21859/ijpn-06067). [Persian].
18. King JL, Reboussin BA, Spangler J, Cornacchione Ross J, Sutfin EL. Tobacco product use and mental health status among young adults. *Addict Behav*. 2018;77:67-72. doi: [10.1016/j.addbeh.2017.09.012](https://doi.org/10.1016/j.addbeh.2017.09.012).
19. Cheng Q, Lu W, Duan Y, Li J, Xie J, Chen Y. Spiritual well-being and its association with hope and meaning in life among gastrointestinal cancer patients: a cross-sectional study. *Support Care Cancer*. 2023;31(4):243. doi: [10.1007/s00520-023-07696-5](https://doi.org/10.1007/s00520-023-07696-5).
20. Upenieks L. Religious/spiritual struggles and suicidal ideation in the COVID-19 era: does the belief in divine control and religious attendance matter? *Psycholog Relig Spiritual*. 2022;14(3):338-50. doi: [10.1037/rel0000467](https://doi.org/10.1037/rel0000467).
21. Dollahite DC, Marks LD. Positive youth religious and spiritual development: what we have learned from religious families. *Religions*. 2019;10(10):548. doi: [10.3390/rel10100548](https://doi.org/10.3390/rel10100548).
22. Grosseohme DH, Friebert S, Baker JN, Tweddle M, Needle J, Chrastek J, et al. Association of religious and spiritual factors with patient-reported outcomes of anxiety, depressive symptoms, fatigue, and pain interference among adolescents and young adults with cancer. *JAMA Netw Open*. 2020;3(6):e206696. doi: [10.1001/jamanetworkopen.2020.6696](https://doi.org/10.1001/jamanetworkopen.2020.6696).
23. Maurice L, López F, Becerra S, Jamhoury H, Le Menach K, Dévier MH, et al. Drinking water quality in areas impacted by oil activities in Ecuador: Associated health risks and social perception of human exposure. *Sci Total Environ*. 2019;690:1203-17. doi: [10.1016/j.scitotenv.2019.07.089](https://doi.org/10.1016/j.scitotenv.2019.07.089).
24. Brown TL, Parks GS, Zimmerman RS, Phillips CM. The role of religion in predicting adolescent alcohol use and problem drinking. *J Stud Alcohol*. 2001;62(5):696-705. doi: [10.15288/jsa.2001.62.696](https://doi.org/10.15288/jsa.2001.62.696).
25. Nonnemaker JM, McNeely CA, Blum RW. Public and private domains of religiosity and adolescent health risk behaviors: evidence from the National Longitudinal Study of Adolescent Health. *Soc Sci Med*. 2003;57(11):2049-54. doi: [10.1016/s0277-9536\(03\)00096-0](https://doi.org/10.1016/s0277-9536(03)00096-0).
26. Jamali A, Madani Y, Gholamali Lavasani M. Predict tendency toward drug abuse among university students on the base of spiritual experiences and sensation seeking. *Rooyesh-e-Ravanshenasi Journal (RRJ)*. 2017;5(4):155-76. [Persian].
27. Heinz AJ, Disney ER, Epstein DH, Glezen LA, Clark PI, Preston KL. A focus-group study on spirituality and substance-user treatment. *Subst Use Misuse*. 2010;45(1-2):134-53. doi: [10.3109/10826080903035130](https://doi.org/10.3109/10826080903035130).
28. Martinez S, Stillerman L, Waldo M. Reliability and validity of the SCL-90-R with Hispanic college students. *Hisp J Behav Sci*. 2005;27(2):254-64. doi: [10.1177/0739986305274911](https://doi.org/10.1177/0739986305274911).
29. Sayehmiri K, Taghinejad H, Tavan H, Mousavi Moghadam SR, Mohammadi I, Ahmadi Z. Validation study of spiritual health questionnaire from Islamic view. *Medical Science Journal of Islamic Azad University-Tehran Medical Branch*. 2016;26(2):109-15. [Persian].
30. Zargar Y, Rahimi Pordanjani T, Mohamadzade Ebrahimi A, Noruzi Z. A Study of Simple and Multiple Relationships between Morningness and Sleep Quality among Students with Addiction Potential in Shahid Chamran University. *Jundishapur Scientific Medical Journal*. 2013;12(4): 375-383.
31. Morjaria A, Orford J. The role of religion and spirituality in recovery from drink problems: a qualitative study of Alcoholics Anonymous members and South Asian men. *Addict Res Theory*. 2002;10(3):225-56. doi: [10.1080/160663502118864](https://doi.org/10.1080/160663502118864).
32. Naghibi SA, Ashari S, Rostami F, Hosseini SH. Evaluation of the relationship between spiritual health and mental health in patients undergoing methadone maintenance treatment. *Journal of Health Research in Community*. 2015;1(3):61-9. [Persian].
33. Shahabinejad M, Sadeghi T, Salem Z. Assessment of the mental health of nursing students. *Iranian Journal of Psychiatric Nursing*. 2016;4(2):29-37. doi: [10.21859/ijpn-04024](https://doi.org/10.21859/ijpn-04024). [Persian].
34. Mostafazadeh F, Asadzadeh F. Spiritual health of midwifery students. *J Health Care*. 2012;14(1-2):55-60. [Persian].
35. Hojjati H, Aloustani S, Akhondzadeh G, Heidari B, Sharif-Nia H. Study of mental health and its relation with quality of life in addicts. *J Shahid Sadoughi Univ Med Sci*. 2010;18(3):207-14. [Persian].
36. Ghodasara SL, Davidson MA, Reich MS, Savoie CV, Rodgers SM. Assessing student mental health at the Vanderbilt University School of Medicine. *Acad Med*. 2011;86(1):116-21. doi: [10.1097/ACM.0b013e3181ffb056](https://doi.org/10.1097/ACM.0b013e3181ffb056).
37. Asadi H, Adarvishi S, Mahmoodi M, Fayazi S, Ghasemi Dehcheshmeh M. Relationship between mental health and demographic factors in nursing students. *J Health Care*. 2014;16(3):79-88. [Persian].
38. Rafati F, Shamsi A, Pilevarzadeh M, Rafati SH. Mental health and risk factors those in nursing students in Jiroft medical students. *Mod Care J*. 2012;9(2):137-45. [Persian].
39. Bíró E, Balajti I, Adány R, Kósa K. Determinants of mental well-being in medical students. *Soc Psychiatry Psychiatr Epidemiol*. 2010;45(2):253-8. doi: [10.1007/s00127-009-0062-0](https://doi.org/10.1007/s00127-009-0062-0).
40. Chen X, Wang Z, Gao J, Hu W. [College students social anxiety associated with stress and mental health]. *Wei Sheng Yan Jiu*. 2007;36(2):197-9. [Chinese].
41. Kolahi Hamed S, Ahmadi E, Shalchi B. Explaining the tendency to substance use on the basis of spiritual intelligence and wisdom. *Horizon Med Sci*. 2018;24(2):146-52. [Persian].
42. Shahriari S, Dastjerdi R, Hojjatzadeh N, Keikhari R, & Ramazani AA. Family function on tendency students towards addiction and substance abuse. *Zahedan J Res Med Sci*. 2014;5(4):59-67. [Persian].
43. Hsiao YC, Chiang HY, Chien LY. An exploration of the status of spiritual health among nursing students in Taiwan. *Nurse Educ Today*. 2010;30(5):386-92. doi: [10.1016/j.nedt.2009.05.001](https://doi.org/10.1016/j.nedt.2009.05.001).
44. Ansari H, Bahrami L, Akbarzadeh L, Bakhshani NM. Assessment of general health and some related factors among students of Zahedan University of Medical Sciences in 2007. *Zahedan J Res Med Sci*. 2007;9(4):e94755. [Persian].
45. López-Bárcena J, González-de Cossío Ortiz M, Avila-Martínez I, Teos-Aguilar O. [Epidemiological health factors and their relationship with academic performance during the first year of medical school. Study of two generations]. *Gac Med Mex*. 2009;145(2):81-90. [Spanish].
46. Imani E, Khademi Z, Soudagar S, Naghizadeh F. Health status of nursing students of Hormozgan University of Medical Sciences by Goldberg's general health questionnaire - 2011. *Hormozgan Med J*. 2013;17(4):320-7. [Persian].
47. Bahamin G, Davarifard F, Sadeghifard YZ. Mediatory role of spirituality in mental health and tendency toward drug use. *Journal of Pizhuhish dar din va salamat*. 2018;4(4):69-79. [Persian].
48. Amirafzali Z, Shirazi M. On the predictive role of spiritual health and self-efficacy in addiction potential among addicts and non-addicts in Jiroft. *Scientific Quarterly Research on Addiction*. 2016;10(39):79-93. [Persian].

50. Gomes FC, de Andrade AG, Izbicki R, Moreira-Almeida A, de Oliveira LG. Religion as a protective factor against drug use among Brazilian university students: a national survey. *Braz J Psychiatry*. 2013;35(1):29-37. doi: [10.1016/j.rbp.2012.05.010](https://doi.org/10.1016/j.rbp.2012.05.010).
51. Merrill RM, Salazar RD, Gardner NW. Relationship between family religiosity and drug use behavior among youth. *Soc Behav Pers*. 2001;29(4):347-57. doi: [10.2224/sbp.2001.29.4.347](https://doi.org/10.2224/sbp.2001.29.4.347).
52. Merrill RM, Folsom JA, Christopherson SS. The influence of family religiosity on adolescent substance use according to religious preference. *Soc Behav Pers*. 2005;33(8):821-36. doi: [10.2224/sbp.2005.33.8.821](https://doi.org/10.2224/sbp.2005.33.8.821).
53. Klein H, Elifson KW, Sterk CE. The relationship between religiosity and drug use among "at risk" women. *J Relig Health*. 2006;45(1):40-56. doi: [10.1007/s10943-005-9005-6](https://doi.org/10.1007/s10943-005-9005-6).

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