



Research Article

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PREDICTING THE MENTAL HEALTH OF MEDICAL SCIENCES STUDENTS' THROUGH SPIRITUAL INTELLIGENCE

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Abstract

Objectives: Mental health is vital for individuals to effectively cope with stress, perform academically, and contribute to society. This study aimed to examine the relationship between the mental health and spiritual intelligence of medical students.

Materials and Methods: The study was conducted on 226 medical students from Shahid Beheshti University of Medical Sciences in 2022. Convenient sampling was used to select participants. Data collection involved the use of demographic, spiritual intelligence, and mental health questionnaires.

Results: The mean age of the participants was 24.87 ± 2.24 . Regression test results indicated that spiritual intelligence could predict somatic symptoms ($p=0.021$), anxiety and insomnia ($p=0.012$), social dysfunction ($p=0.018$), and severe depression ($p=0.022$). There is a significant relationship between marital status and mental health ($p=0.031$), as well as between gender and spiritual intelligence ($p=0.048$). However, there was no significant relation observed between marital status and spiritual intelligence ($p=0.839$), and between gender and mental health ($p=0.560$). Pearson's correlation test demonstrated a direct and significant relationship between mental health and spiritual intelligence ($R=0.211$; $p=0.012$).

Conclusion: The discussion of the findings emphasizes the importance of spiritual intelligence as a determining factor for the mental health of medical students. Recognizing the significance of mental health in this group, interventions that aim to enhance their spiritual intelligence should be considered. It is recommended that educational institutions and healthcare professionals implement interventions and programs that foster the spiritual intelligence of medical students.

Keywords: Spiritual intelligence, general health, mental health.

Introduction

The mental well-being of individuals plays an important role in their overall health and sense of well-being. It helps them cope with stress, perform well in their learning and work, and contribute positively to their community. ¹ Poor mental health is associated with issues such as suicidal thoughts and fatigue, drug abuse, and even thoughts of leaving medical sciences students. ² The World Health Organization (WHO) predicts that depression will become the second leading cause of disease burden in the near future. ³

Medical students face various stressors that can potentially threaten their mental health. These include a heavy workload, sleep deprivation, dealing with difficult patients, financial concerns, overwhelming amounts of information, career planning, and adjusting to the medical school environment,⁴ Additionally, they face pressure from studying, high expectations, exposure to the suffering and deaths of others, and a lack of supportive. ⁵

Studies have indicated that stressful conditions have a positive correlation with physical and mental health problems among medical students at various stages of their education. ⁶

Mental health problems are a significant issue among students in higher education, with depression being prevalent among around 30% of medical students. ⁷

It is worth noting that the prevalence of mental health disorders in both rural and urban areas of Iran is estimated to be around 21.3% and 20.9%, respectively. ⁸

Health improvement has a significant relationship with spirituality. Spiritual intelligence goes beyond one's cognitive perceptions of their surroundings and encompasses a higher vision and perspective. ⁹

Spirituality is considered a crucial multicultural domain that promotes well-being and healthy coping with conditions such as major depressive disorder. Recognizing the importance of spirituality as an integral part of a holistic approach is essential. ⁶ Spirituality provides individuals with knowledge that enhances their adaptability to the environment and includes five essential abilities for adaptive behaviors: the ability to align their actions with the integration of the world, self-awareness, exploring and understanding their daily experiences with different emotions, solving life problems using spiritual resources, and engaging in virtuous deeds. ¹⁰ Studies conducted on mental health in Iran have highlighted the significant issues faced by adolescents, particularly in urban areas. An increased incidence of mental health problems among adolescents and youth has been observed.¹¹ The findings of these studies can be valuable in identifying the factors

associated with mental health and developing preventative interventions aimed at promoting the mental well-being of medical students.

Materials and Methods

This cross-sectional study was conducted in 2022 at Shahid Beheshti University of Medical Sciences (SBMU). A convenience sampling method was used to select nursing, midwifery, and pharmacy students who had completed at least two semesters of their academic courses. The sample size was estimated to be 226, considering a confidence level of 95%, an estimated proportion of 0.5, and an error of 0.05 units. To collect data, three questionnaires were utilized:

Demographic Information Questionnaire

This questionnaire included questions on age, gender, major, marital status, and level of education.

General Health Questionnaire (GHQ28): The GHQ28 is a self-administered screening questionnaire designed to detect probable psychiatric disorders. It was originally developed by Goldberg¹² for an international WHO study of psychological disorders in primary health care.¹³

The GHQ28 consists of four subscales: somatic symptoms (items 1–7), anxiety and insomnia (items 8–14), social dysfunction (items 15–21), and severe depression (items 22–28).¹² Each item is scored dichotomously, with "0" indicating the absence of the symptom and "1" indicating the presence of the symptom.¹⁴ The total scores range from 0 to 28, with higher scores indicating worse psychological health. Subjects with a GHQ28 score of 5 or higher were classified as having probable psychological distress, while those with a score below 5 were classified as not having clinically significant psychiatric symptoms.¹⁵

Prior research has evaluated the reliability and validity of the Persian version of the GHQ-28, yielding acceptable ranges between 0.73 and 0.89.¹⁶

Spiritual Intelligence Questionnaire: Badie's 42-item spiritual intelligence questionnaire was used in this study. The questionnaire measures four components: beliefs (12 questions), problem-encountering ability (14 questions), moral virtue (9 questions), and self-consciousness (7 questions). The reliability of the questionnaire, assessed using Cronbach's alpha, was found to be 0.69 overall. The alphas for the components of beliefs, problem-encountering ability, moral virtue, and self-consciousness were 0.58, 0.62, 0.72, and 0.64, respectively.¹⁷

The questionnaires were prepared electronically on the Google Docs platform, and the link was shared with the students through social media channels and platforms supported by the university. Participants were instructed to answer the questions honestly and were assured of the confidentiality of their information. Prior to answering the research questions, they were required to approve an informed consent form.

This study was registered at Shadid Beheshti University Medical Ethics and Law Research Centre with the ethical code IR.SBMU.RETECH.REC.1401.678.

Statistical Analysis

Data were analyzed using SPSS software version 18. After evaluating the normality of the data using the Kolmogorov-Smirnov test, the student's t-test was used to compare the quantitative variables. Pearson's correlation coefficient was used to examine the correlation among variables. Linear regression was used to investigate the predictors of general health. In all analyses, a significance level of less than 0.05 was considered.

Results

The mean age of the participants was 24.87 ± 2.24 , with other demographic specifications provided in Table 1.

Table 1. The participants' demographic characteristics (n=226)

	Number (n)	Percentage (%)
Age		
≤20	52	23.00
21-25	123	54.41
26-30	43	19.00
>31	8	3.59
Gender		
Female	104	46.00
Male	122	54.00
Marital status		
Single	188	83.20
Married	38	16.80
Major		
Nursing	128	56.70
Midwifery	72	31.90
Pharmacy	25	11.40
Education		
Bachelor (BS)	166	73.50
Master (MSc)	48	21.20
Doctor of Philosophy (Ph.D.)	12	5.30

The mean score for general health was 12.22 ± 5.10 , while spiritual intelligence scored an average of 102.26 ± 14.22

The coefficient for spiritual intelligence predicting somatic symptoms is 0.161. This means that for every one-unit increase in spiritual intelligence, there is a 0.161-unit increase in somatic symptoms. The t-value of 2.180 suggests that this relationship is statistically significant ($p=0.021$). The coefficient for spiritual intelligence predicting anxiety and insomnia is 0.783. This means that for every one-unit increase in spiritual intelligence, there is a 0.783-unit increase in anxiety and insomnia. The t-value of 1.24 indicates that this relationship is statistically significant ($p=0.012$). The coefficient for spiritual intelligence predicting social dysfunction is 0.64, for every one-unit increase in spiritual intelligence, there is a 0.64-unit increase in social dysfunction. The t-value of 2.38 suggests that this relationship is statistically significant ($p<0.001$). The coefficient for spiritual intelligence predicting severe depression is 0.15, for every one-unit increase in spiritual intelligence, there is a 0.15 unit increase in severe depression. The t-value of 2.20 suggests that this relationship is statistically significant ($p=0.022$).

Overall, the findings indicate that higher levels of spiritual intelligence are associated with increased somatic symptoms, social dysfunction, and severe depression. However, there is no significant relationship between spiritual intelligence anxiety and insomnia (Table 2).

Table 2. Regression analysis summary for spiritual intelligence predicting somatic symptoms, anxiety and insomnia, social dysfunction, and severe depression (n=226)

Variable	B	t	P
Somatic symptoms	0.160	2.181	0.021
Anxiety and insomnia	0.781	1.242	0.012
Social dysfunction	0.642	2.381	0.018
Severe depression	0.151	2.200	0.022

Analysis using independent t-tests revealed a significant relationship between marital status and mental health ($p<0.031$), as well as between gender and spiritual intelligence ($p<0.048$). However, there was no significant relationship observed between marital status and spiritual intelligence ($p<0.839$), and between gender and mental health ($p=0.560$). Similarly, no significant relationship was found between living situation (living in a dormitory vs living with family) and mental health ($p=0.744$), or spiritual intelligence ($p=0.184$). Pearson's correlation test demonstrated a direct and significant relationship between mental health and spiritual intelligence ($R=0.211$; $p=0.012$). However, this correlation can be considered weak (Table 3).

Table 3. Correlation between components of mental health and spiritual intelligence (n=226)

Variables	1	2	3	4	5	6
1- Somatic symptoms	1	R=0.611 P<0.001	R=0.312 P<0.001	R=0.344 P<0.001	R=0.763 P<0.001	R=0.261 P=0.040
2-Anxiety and insomnia		1	R=0.25 P=0.003	R=0.500 P<0.001	R=0.820 P<0.001	R=0.011 P=0.860
3-Social dysfunction			1	R=0.400 P<0.001	R=0.630 P<0.001	R=0.220 P=0.008
4-Severe depression				1	R=0.75 P<0.001	R=0.190 P=0.021
5- Over all mental health					1	R=0.211 P=0.012
6-Spiritual intelligent						1

Discussion

The concept of spiritual intelligence involves contemplating the significance of personal events and conditions and generating meaning and purpose in life. According to the findings of this study, there is a positive and significant relationship between students' spiritual intelligence and their mental health components. Higher spiritual intelligence scores were associated with fewer symptoms of mental illness. Additionally, spiritual intelligence may act as a protective factor against risky behaviors that could threaten mental health. Spiritual intelligence involves understanding one's purpose, values, and beliefs, which guide decision-making and interactions. By fostering self-awareness and empathy, spiritual intelligence shapes behaviors, promoting personal growth, ethical choices, and deeper connections with others, ultimately enhancing overall well-being and life satisfaction.

These results are consistent with previous studies conducted by Chamratrithirong et al ¹⁸. Yousaf et al also emphasized the important role of spiritual intelligence in shaping individual behaviors. ¹⁹

Park et al found that higher levels of spirituality were associated with increased happiness, satisfaction with finances, and reduced psychological distress. ²⁰ Bahrami et al discovered a significant relationship between religious orientation, better self-esteem, and lower likelihood of mental disorders. ²¹ Numerous studies have also indicated that adults who reported religious beliefs and practices had better mental and physical health compared to those who did not. ²²⁻²⁴

Our study did not identify any difference between women and men in this regard. Garima et al have reported that marital status has an impact on women's mental health, with unmarried women displaying better mental health than married women.³ While some studies suggest that women have higher levels of spirituality compared to men^{25,26} other studies have presented contradictory results. Males and females have similar levels of spirituality. This difference could be attributed to the gender socialization process and the various social roles held by individuals.²⁷

While the study conducted by Dyrbye LN et al.,²⁸ found no significant differences between genders and mental health, Farahangiz S et al.¹⁶ reported a higher prevalence of mental morbidity in males. Furthermore, the mental health of women may be more susceptible to the impact of social and cultural changes in community structure, complexities in social communication networks, and the extensive availability of information resources in societies.

This research demonstrates that married students have lower levels of depression, psychological distress, and psychiatric disorders, as well as higher levels of life satisfaction and subjective well-being. Similar to our study, the research conducted by Al Khatib et al. in the UAE revealed a significant prevalence of depressive symptoms among college students, with female students exhibiting higher levels than their male counterparts. Additionally, single students displayed greater depressive symptoms compared to those who were married.²⁹

In conclusion, higher levels of spiritual intelligence could aid medical students in coping with mental disorders. Spiritual coping has the potential to promote mental health and facilitate positive changes in their lives.

Limitation: The use of convenience sampling in this study restricts the generalizability of the results to all students.

Ethical Considerations: This study was registered at Shadid Beheshti University Medical Ethics and Law Research Centre with the ethical code IR.SBMU.RETECH.REC.1401.678.

Conflict of Interest: The authors declare no conflict of interest.

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