

## Spiritual Health of Men Hospitalized In Qom Trauma Center: Association with In-Hospital Anxiety and Depression

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### Abstract

**Background and Objectives:** Nowadays, spiritual health, as one of the health aspects, can better respond to the current conditions in being faced with anxiety, tension, and restlessness due to injury and disease. The aim of this study is to investigate the spiritual health of inpatients and its association with in-hospital anxiety and depression.

**Methods:** In this descriptive-analytical study, 142 inpatients in Qom Nekoei Hospital were enrolled by stratified random sampling. Demographics and hospital information questionnaire, Paloutzian & Ellison Spiritual Well-Being Scale, and Hospital Anxiety and Depression Scale were completed by the participants. Data were generated and analyzed by SPSS.

**Results:** Linear regression results showed that the score on spiritual health was statistically significantly associated with the level of depression and anxiety such that with 1-point increase in spiritual health score, the mean score on depression and anxiety decreased by 0.145 ( $p=0.000$ ). In addition, spiritual health score was moderate in the participants ( $88.44\pm 20$ ). The participants' religious well-being score ( $48\pm 8$ ) was higher than their existential well-being score ( $40\pm 10$ ).

**Conclusion:** Because anxiety and depression levels were lower in the inpatients with higher levels of spiritual health, it can be concluded that people with greater spiritual tendency develop lower levels of anxiety and depression when they are ill, and are comparatively more successfully in coping with suffering due to disease.

**Keywords:** Spirituality, Anxiety And Depression, Patient, Hospital.

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### Introduction

Patients develop anxiety, tension, and restlessness due to fear of debilitating symptoms of the disease and death. Such anxiety can manifest as generalized anxiety disorder or panic attacks and take patients out of the way of life (1). Surgery is a cause of anxiety in hospitals. Preoperative procedures, the day of surgery and worry about its outcomes, worry about lack of control, the risk of death, unfamiliarized and unpleasant situations, and expecting unpleasant outcomes can all cause anxiety in patients (2). Studies have indicated that even minor surgeries cause anxiety in the patients that can affect postoperative recovery process and cause psychological reactions and certain physiological complications such as tachycardia, hypertension, arterial contraction,

reduced blood supply to the wound, and reduced relative pressure of tissues (3). These issues lead to postoperative pain, intensified need for analgesics and anesthetic drugs, elongated hospital stay, and delayed discharge of patients (4).

Studies have demonstrated the association of spirituality with physical and psychological health as well as enhanced coping with disease (5). Spiritual health causes the integration of other aspects and per se involves two aspects: Existential well-being and religious well-being. Religious well-being refers to satisfaction resulting from relationship with a superior power and existential well-being to make attempt to understand meaning and purpose in life (6). When spiritual health is seriously compromised, one may experience mental

disorders such as loneliness, depression, and loss of meaning in life. Therefore, support from spiritual or religious sources and having relationship with a higher power are beneficial and can be useful for improving quality of life, reducing mental health disorders, interpersonal support, reducing symptoms severity, and positive medical outcomes (7).

Nowadays, the role of spirituality in promoting health and developing patient's responses to disease is attracting more attention. Caregivers have come to believe that if they seek to provide real and complete health care, it is essential to be sensitive to the spiritual needs of patients (8). A number of studies have shown that spiritual or religious beliefs and practices bring about positive mental state in patients and help them feel better. Spiritual and religious well-being can relieve anxiety, depression, anger, and discomfort as well as the feeling of isolation (loneliness) and the risk of committing suicide, helps to cope with the complications of the disease and its treatment, and therefore the sense of personality growth in the patient and his/her ability to enjoy life during treatment increase (9). Allahbakhshian Farsani et al. study on patients with multiple sclerosis (10) and Litwinczuk and Groh study on patients with AIDS (11) indicated that the quality of life of the patients who found life to be based on spirituality during the disease was better compared to the time of diagnosis.

Because anxiety and depression affect disease course and recovery, the patients who suffer from anxiety and depression should be identified as soon as possible and treated by scientific approaches. Therefore, with regards to the significant role of spiritual health in improving patients and coping with disease, it is essential to investigate the levels of spiritual health in inpatients and its association with in-hospital stress and depression to appropriately plan for promoting spiritual health and preventing and controlling in-hospital anxiety and depression.

## Methods

This descriptive-analytical study is part of a larger study conducted in 2014 to investigate the effect of a clergyman-led intervention on

spiritual health, stress, and depression in inpatients (12). The data on spiritual health and in-hospital stress and depression of 142 inpatients in Qom Nekoui Hospital collected before the intervention in that study were used in the current study. The inclusion criteria were being hospitalized as the study was being conducted, being willing and providing written informed consent to participate in the study, being able to answer the questions, lack of using anti-anxiety drugs and antidepressants as the study was being conducted, and being male; and the exclusion criteria were having history of psychological problem and underlying disease, and mental retardation, withdrawing from the study, and having history of using psychotropic drugs and opiates. Considering 95% confidence interval and 80% test power, and according to the sample size calculation formula and Mousarezaie et al. study (13), adequate number of samples to conduct the current study was determined 132. Taking into account potential dropouts, a total of 142 male inpatients in Qom Nekoei Hospital, serving as the trauma center of this city, were selected so that certain confounders such as the type of disease and surgery and gender that can greatly affect stress and depression could be controlled for.

Sampling was conducted by stratified random method. For this purpose, Qom Trauma Center was first selected and then, a number of eligible inpatients in each ward (stratum), proportionate to the total number of the inpatients in that ward, were selected till the adequate number of samples was recruited. After the participants provided informed consent to participate in the study, demographics and hospital information questionnaire was administered to the participants after their initial individual information was drawn and if they fulfilled the inclusion criteria, they were enrolled in the study and Hospital Anxiety and Depression Scale (HADS) was administered to them to measure the levels of in-hospital depression and anxiety. This questionnaire consists of 14 questions (seven questions about depression and seven questions on anxiety).

All questions are rated by 4-point Likert scale. Maximum possible score is 21. Scores 0-7, 8-10, and  $\geq 11$  represent being normal, borderline disorder, and suspected disorder, respectively. The Persian version of the HADS was validated by Montazeri et al.; and its internal consistency was derived 78% for anxiety and 86% for depression by Cronbach's alpha coefficient (14). Besides that, Kaviani et al. conducted standardization and validation of the HADS with a population suffering from depression and anxiety compared to a normal population, and reported the validity, reliability, and internal consistency of the HADS and its subscales, i.e. anxiety and depression, to be acceptable. Kaviani et al. investigated different types of validity (face, content, internal criterion-related concurrent, convergent, and differential) (15).

Meanwhile, Paloutzian & Ellison Spiritual Well-Being Scale (16) was administered to measure spiritual health. This scale consists of 20 items, 10 of which are to measure religious well-being and the remaining items are concerned with existential well-being. The scores on both religious and spiritual well-being range between 10 and 60. There is no independent classification of the scores on religious and existential well-being and judgement is made based on the total attained score. Higher score represents higher level of religious and existential well-being. The sum of the scores on these two subscales is the score on spiritual health ranging between 20 and 120.

The items of this scale are rated by 6-point (from absolutely agree to absolutely disagree) Likert scale. Scores 20-40, 41-99, and 100-120 represent low, moderate, and high levels of spiritual health, respectively. Seyedfatemi et al. investigated the validity of this scale using content validity and determined its reliability to be 0.82 by Cronbach's alpha coefficient (17). For all statistical tests in this study, the level of significance was considered  $< 0.05$ . Data generation and analysis was conducted by descriptive statistics, linear regression, and correlation in SPSS. Comprehensive and adequate explanations about the research purposes were delivered to the participants and

then they provided written consent to participate in the study. In addition, they were ensured that ethical considerations would be observed so that the data would be kept private and the routine treatments would progress uninterruptedly.

## Result

In the current study, a total of 142 inpatients aged 16-80 (mean:  $34 \pm 14$ ) years were recruited from Qom Nekoui Hospital. 38% of the patients had guidance education certificate, 24% had academic degree, 20% had elementary education certificate, 3% were illiterate, and 3% did not answer education question. 41% had history of hospital stay, 52% did not have history of hospital stay, and 7% left this item unanswered. In 78% of the participants, the injuries needed surgery, in 5% of them, the injuries did not need surgery, and 17% of the participants left this item unanswered.

The causes of hospitalization in 46%, 32%, 14%, and 8% of the participants were fracture, surgery, burn, and miscellaneous, respectively. 32% of the participants had been hospitalized in orthopedic surgical ward, 34% in orthopedic ward, 14% in burn ward, 8% in neurological ward, and 7% in other wards.

Linear regression results showed that the score on spiritual health was significantly associated with depression and anxiety levels such that with 1-point increase in spiritual health score, mean score on depression and anxiety decreased by 0.145 ( $p=0.000$ ) (Table 1). There was also a significant association between the cause of hospitalization and depression and anxiety levels ( $B=-4.60$ ,  $p=0.000$ ) as well as between the type of ward and depression and anxiety levels ( $B=4.21$ ,  $p=0.000$ ). Other demographic and clinical variables were not significantly associated with depression and anxiety levels.

In addition, the mean score on spiritual health was moderate ( $88.50 \pm 20$ ), and mean religious well-being score ( $48 \pm 8$ ) was higher than mean existential well-being score ( $40 \pm 10$ ) in the participants. The score on religious well-being was directly and significantly correlated with the score on existential well-being ( $0.76$ ,  $p=0.000$ ) such that the higher the levels of religious well-being were, the higher the levels of existential well-being were.

Table 1. Association of the scores on spiritual health and demographic and clinical variables with depression and anxiety levels according to linear regression

Variable	B	SE	95% Confidence Interval	Sig.
Intercept	31.2	4.60	22.20-40.30	0.000
Spiritual health	-0.12	0.03	-0.18 - -0.05	0.001
Causes of Hospitalization	-4.60	0.75	-6.10- -3.10	0.000
Ward	4.21	0.91	2.40-6.02	0.000
Age	0.03	0.04	-0.06-0.11	0.54
Educational level	-0.48	1.24	-2.90-1.98	0.70
History of Hospitalization	-1.15	1.25	-3.63-1.34	0.36
Need Surgery	-0.75	1.03	-2.80-1.30	0.47

## Discussion

This study demonstrated that increased spiritual health score was associated with decreased scores on in-hospital depression and anxiety in male inpatients in a trauma center in Iran. More clearly, the patients with higher levels of spiritual health had lower levels of in-hospital depression and anxiety, and those with lower levels of spiritual health had higher levels of in-hospital depression and anxiety. This significant association was found in the inpatients in all wards of the center, and the cause of hospitalization had no effect on it. This finding is consistent with Meraviglia study that demonstrated an association between the high scores on spiritual aspect and low levels of anxiety symptoms (18). Romero et al. study showed that there was a significant association between spirituality and mental disorders such as stress in cancer patients (19). McMahon study is consistent with our study and indicated that the mean score on religious coping was statistically inversely correlated with anxiety in 238 patients in the last stages of life in a sanatorium in North Virginia, and the patients that used religious practices for coping developed anxiety less frequently (20).

Khademvatani study also demonstrated that the people with higher levels of spirituality had better conditions in terms of anxiety and depression levels (21); Rezaei et al. study indicated that patients' stress was significantly correlated with all aspects of their spiritual health according to Pearson correlation coefficient (22). A study on the patients who had completed cardiac rehabilitation program, showed that promoted spiritual health was associated with promoted psychological

condition (23). McCoubrie and Davies reported that spiritual health especially existential aspect was significantly and inversely correlated with stress and depression in cancer patients (24).

Miller study showed that tendency to religious practices was inversely correlated with depression such that the people with more religious practices were more relaxed, and therefore the levels of their depression and hopelessness were lower (25). Accordingly, Musarezaie et al. study showed a significant association between spiritual health score and anxiety level in patients (26). Bastani et al. findings regarding perceived stress and its association with spiritual health in the elderly members of the Association for the Prevention and Control of Diabetes in Babol, northern Iran, showed that perceived stress and spiritual health were statistically significantly correlated in these patients (27). Disease can serve as a gateway to spiritual awakening and an opportunity for change.

The inverse correlation between spiritual health and the levels of anxiety and depression can indicate that promoted spiritual health is associated with promoted psychological condition, and the people with spiritual tendency and beliefs, especially in Iranian-Islamic communities whereby people have rich and long-standing religious and cultural beliefs, are more successful in coping with suffering due to disease. Such people, even in crises, are able to find meaning and purpose in life, comparatively more successful in coping with suffering due to disease, and more likely to turn to religion in coping with critical conditions (10).

However, the association of spirituality or religion with mental health has not been consistently reported to be positive and significant. For example, Koszycki et al. reported that there was not any significant association between spirituality and psychological adjustment in cancer patients (28). Besides that, Kadivar et al. (29) did not observe any significant association between stress and spiritual health in the mothers with infants hospitalized in NICUs, probably due to different scales to measure stress because Funk

and Miles's Parental Stress Scale: Neonatal Intensive Care Unit addresses the physiologic effects of stress and is not consistent with Spiritual Well-Being Scale that is nonphysiologic.

Compared to some studies on patients with certain diseases such as multiple sclerosis in Buessing et al. study, It seems that in the patients with low spiritual health levels, new hopes in treatment have increased the patients' life expectancy and improved their quality of life (30). These inconsistencies can be due to the specific culture and religious beliefs in any community or different instruments of gathering data, types of diseases, and study populations.

The other finding of our study was the significant association of the cause of hospitalization and the ward where the patient was hospitalized with in-hospital depression levels, suggesting that the more severe the disease was and the riskier the surgery was, the higher the levels of stress and depression were, as these levels have been reported to be very high in risky surgeries such as coronary artery bypass graft (31).

Moreover, the current study demonstrated that the mean level of the inpatients' spiritual health was moderate. Consistently, Musarezai et al. study on women with breast cancer reported that spiritual health levels of 64% of the samples were moderate and those of the rest were high (13). McCoubrie and Davies study also is consistent with our findings as they found that the mean score on spiritual health was moderate in most cancer patients (24). Khademvatan et al. study showed that overall, 52% of the patients with myocardial infarction had moderate levels of spiritual health and the rest had high levels (21). In Jahani et al. study on patients with coronary artery disease in Tehran, 53.3% of patients had moderate levels of spiritual health (32), while Rezaei et al. reported that 54% of cancer patients had high levels of spiritual health (22).

Moreover, Leung et al. study showed that spiritual health levels of cancer patients in the last stages of life were high (33). Because the environment of Holy Qom is mainly culture and religion-based, it is expected that the

spiritual health status of the people and patients in this city is comparatively better compared to the results of similar studies. However, this study showed that the spiritual health levels of the inpatients, as with the patients in most regions of Iran, were moderate. This consistency can be due to the types of diseases of the patients in our study and especially their young ages.

In this study, the mean score on the inpatients' religious well-being was higher than the mean score on their existential well-being, which is consistent with Rezaei et al. study on cancer patients (13). Momeni et al. results also indicated high scores on the religious subscale of spiritual health in the patients with coronary artery disease (34). Inconsistent with our study, however, Allahbakhshian Farsani et al. study showed cancer patients' higher scores on existential well-being than their scores on religious well-being (10). To explain higher religious well-being scores than existential well-being ones, it can be argued that this finding is due to the cultural and religious conditions of the people in Qom (32), or that stressful living conditions and the crisis due to disease lead to patients' strengthened tendency to religion (34).

These minor inconsistencies can also be due to different levels of rigor in implementing the studies as well as difference in instruments, diseases, and the ages of the subjects, because the types of diseases and treatments, and the steps of treatments were not homogeneous in the previous studies. The significant correlation between religious and spiritual well-being can represent that the religion contributes significantly to individual worldview, meaningfulness and purposefulness of life, and being hopeful and enjoying a good relationship with the Creator.

A limitation of our study was that only male inpatients in a teaching hospital were enrolled; and women and the inpatients in other healthcare centers could not be studied. It is therefore recommended to conduct similar studies on patients with other types of diseases, both sexes, and in different geographical regions.

## Conclusion

Because anxiety and depression were lower in the patients with higher spiritual health levels, it can be concluded that people with religious tendency and beliefs develop lower levels of anxiety and depression and are more successful in coping with suffering due to disease. Therefore, the spiritual vacuum in patients, if any, can be identified through further studies so that necessary measures can be taken to promote spiritual health using the spiritual capacity in Holy Qom.

## Conflict of interest

The authors declare no conflict of interest.

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