eISSN: 2645-7687. Journal of Clinical Care and Skills. 2022;3(2):47-51.

Correlation between Spiritual Health and Depression, Anxiety, and Stress in Patients Undergoing General Surgeries

Journal of Clinical Care and Skills

ARTICLE INFO

Article Type
Descriptive Study

Authors
Jamalimoghadam N.[1] *PhD,*
Heydari N.[2] *MSc,*
Dehbozorgi R.*[3] *MSc,*
Heydari F.[1] *BSc*

How to cite this article
Jamalimoghadam N, Heydari N, Dehbozorgi R, Heydari F. Correlation between Spiritual Health and Depression, Anxiety, and Stress in Patients Undergoing General Surgeries. Journal of Clinical Care and Skills. 2022;3(2):47-51.

[1]Department of Nursing, School of Nursing and Midwifery, Shiraz University of Medical Sciences, Shiraz, Iran
[2]Community Health Nursing Department, School of Nursing and Midwifery, Shiraz University of Medical Sciences, Shiraz, Iran
[3]Nursing and Midwifery School, Isfahan University of Medical Sciences, Isfahan, Iran

Correspondence
Address: Nursing and Midwifery School, Isfahan University of Medical Sciences, Isfahan, Iran. Postal Code: 8174673461
Phone: +98 (990) 3331471
Fax: +98 (71) 36474254
rdehbozorgi110@gmail.com

Article History
Received: April 14, 2022
Accepted: May 29, 2022
ePublished: June 20, 2022

ABSTRACT

Aims Due to the threat that surgery creates for the whole body, anxiety or stress is one of the most common problems before surgery. Studies have reported conflicting results regarding the relationship between spiritual health and stress and anxiety in these patients. Therefore, the aim of this study was to determine the correlation between spiritual health and stress, anxiety and depression in patients hospitalized in general surgery ward.

Instruments & Methods This cross-sectional descriptive study was performed on 300 patients admitted to the general surgery ward of Namazi Hospital in Shiraz, Iran. Participants were selected by simple random method in 2017. A three-part questionnaire was used to collect data; the first part included the patient's demographic information, the second part included the DASS21 standard questionnaire, and the third part included the Ellison-Paloutzian standard spiritual health questionnaire. The data were analyzed using SPSS 22 software and descriptive statistics and inferential analysis tests (Spearman's correlation coefficient).

Findings The majority of patients (77.7%) had moderate spiritual health. There was a significant and negative correlation between depression (r=-0.500), anxiety (r=-0.504) and stress (r=-0.391) with spiritual health (p<0.001).

Conclusion Whatever the spiritual health of patients in the Surgery Unit is more they experience less depression, anxiety and stress.

Keywords Spirituality; Depression; Anxiety; Stress; General Surgery; Hospitalization

CITATION LINKS

[1] Expertise in medicine and ... [2] Effect of progressive muscle relaxation ... [3] Brunner & Suddarth's textbook of medical-surgical ... [4] The cortisol stress response induced by surgery: A systematic review ... [5] Preoperative anxiety among adult patients ... [6] Preoperative anxiety in patients undergoing outpatient ... [7] Spirituality in nursing: Standing on ... [8] Preoperative anxiety and implications on ... [9] Prevalence and determinants of depression and ... [10] Depression and postoperative complications ... [11] Depression and anxiety in patients undergoing elective ... [12] The comparison of severity and prevalence of major depressive ... [13] Cancer nursing: Care in ... [14] Religion as problem, religion as solution: Religious ... [15] Spiritual treatment for depression in Brazil: An experience from ... [16] Mediators of the relationship between hope and well-being in ... [17] The relationship between religious ... [18] Fundamentals of nursing-human ... [19] Explanatory definition of the concept of spiritual ... [20] Spiritual health: A concept ... [21] The importance of spirituality in ... [22] Neonatal end-of-life spiritual support ... [23] The relationship between spiritual ... [24] The relationship between spiritual health and religious coping with death anxiety ... [25] The impact of nurses' spiritual health on their attitudes toward ... [26] The depression anxiety stress ... [27] Validation of the Persian version of spiritual well-being ... [28] Prayer and spiritual well-being ... [29] Psychometric properties of DASS-42 as ... [30] Psychometric properties of the ... [31] Quality of life and spiritual well-being ... [32] Perceived stress and its relationship ... [33] Effect of spiritual health (Sound Heart) ... [34] Religion and mental health ... [35] Relationship between mental ... [36] Prediction of war veteran's ... [37] Spiritual well-being and mental ... [38] Spiritual well-being, depressive ... [39] Religiousness and depression ... [40] The relationship between spiritual ... [41] Effect of a spiritual care program ... [42] Relationship between perceived ... [43] The relationship between the spiritual ... [44] Religion, spirituality and mental ... [45] Religious and spiritual interventions ...

Introduction

Surgery is an intentional change in anatomical structures of the body in order to provide comfort, relief or improvement of pathologic process and repair of traumatic injuries [1]. Anxiety is one of the most common problems before surgery that is observed in 22% of patients undergoing surgery [2].

Surgery is considered as a threat to the integrity of the body and life [3] and any threat to the body, whether true or false, is stressful [4]. The prevalence of preoperative anxiety in adults is variable between 11% and 80% [5, 6]. Anxiety before surgery is created due to concern for post-operative problems such as pain and discomfort, changes in body image or performance, increase of dependency, family concerns or probable changes in lifestyle [7].

Increased anxiety before surgery can prevent post-operative recovery. High anxiety before surgery is associated with high incidence of post-operative pain, reduced ability to resist infection, increase use of analgesics after surgery, delay of wound healing, need for sedative medication during surgery, increase of hospitalization and negative impact on the patient's mood [8]. Hospitalization can cause psychological reactions such as depression and anxiety that are the most common mental disorders affecting individuals and societies around the world [9].

Based on a study, depression is a frequent cause of morbidity in surgical patients suffering from a wide range of conditions [10]. Latif's study in Pakistan achieved the same result and showed that the prevalence of anxiety and depression is frequent in patients undergoing major surgery [11].

According to a study on elderly hospitalized in Iran, the prevalence of general anxiety disorder and major depressive disorder according to the Structured Clinical Interview for DSM (SCID), in the patients were 25.4% and 23.9% [12].

There is a relationship between depression, stress and anxiety; so that depression is more prevalent in anxious and stressful cancer patients and vice versa [13]. However, several studies indicate a positive impact of spiritual health on mental health, including depression, anxiety and attempt to commit suicide and substance abuse [14, 15], and spirituality is a predictor and promoter of mental health [16]. According to a study on nursing and midwifery students in Iran, religious attitude can be considered an intrinsic motivation and religious people were more motivated to progress [17].

Spiritual health is one of the important aspects of human health that provides a harmonious and integrated relationship between internal forces [18]. Human connection with God was identified as the most important aspect of spiritual health in a qualitative study [19]. Spiritual dimension of health has always been taken into account in nursing. Florence Nightingale believed that spiritual care is an integral part of human needs and is necessary for healing [20] and according to a conceptual analysis study based on the method of Walker and Avant, spiritual health is related to well-being and moral development in the literature related to health and nursing in Iran [20].

Spiritual resources are individual resources that help to integrate of physical, mental and social dimensions, and clinical specialists can prioritize the integrated well-being of patients by addressing the spiritual and religious dimensions in patient care [21], and patients also prefer that professional caregivers pay attention to their religious and spiritual needs [22]. A cross-sectional study also found a significant correlation between mental health and spiritual health of patients [23]. Also there, is a significant association between spiritual health and anxiety reduction in a cross-sectional descriptive study [24]. Therefore, nurses' attitude towards spiritual care can mediate their personal spiritual health, professional commitment and care [25].

Considering the effect of spiritual health in promoting adaptation to stress and anxiety and the limitations of such studies on patients hospitalized in general surgery wards, the present study aimed to investigate the correlation between spiritual health and stress and anxiety in patients undergoing general surgeries.

Instruments and Methods

This cross-sectional descriptive study was performed on patients hospitalized in General Surgery Unit of Namazi Hospital in Shiraz in 2017.

The sample size was estimated to be 235 people using Medcalc software with $\alpha=0.05$, $\beta=0.2$, $p=0.36$, and $p_0=0.45$. 300 people were selected by simple random sampling method and entered the study in a period of 6 months. Inclusion criteria were: at least one day hospitalization in the Surgical Unit, interest in participating in the research, ability to understand and speak Farsi. Having a previous psychological disease was the exclusion criterion.

A three-part questionnaire was used to collect data; the first part included the patient's demographic information (gender, educational level, occupation), the second part included the DASS21 standard questionnaire, and the third part included the Ellison-Paloutzian standard spiritual health questionnaire [26].

The Ellison-Paloutzian spiritual health questionnaire contains 20 items with 2 subscales of Existential Well-Being (EWB) and Religious Well-Being (RWB), each subscale having 10 items. Answers to the choices are classified as Likert 6-point Likert options from completely disagree to strongly agree and scores ranged from 20 to 120. Spiritual health was classified in three levels: low (20 to 40), medium (41 to 99) and high (100 to 120). The validity of the Persian version of this questionnaire has been

checked and confirmed by Biglari *et al.* [27]. Seyedfatemi *et al.* reported the reliability of this questionnaire using Cronbach's alpha test as 0.82 in their study [28].

Depression, Anxiety and Stress Scale - 21 Items (DASS-21) was used to assess depression, anxiety and stress of patients. This self-report questionnaire with 21 questions was designed by Lovibond in 1995. Each of the three subscales includes 7 items and the participant should calibrate the frequency of the mentioned symptoms using a 4-point scale (0 to 3). Considering that this questionnaire is the short form of the original scale (42 questions), the total score of each subscale is doubled. Then, by referring to the scoring table, the severity of the symptoms is determined [29]. The reliability and validity of the Persian version of this questionnaire has been checked and confirmed by Kakemam *et al.* [30].

Information was collected after obtaining permission from Shiraz University of Medical Sciences. Ethical considerations, including confidentiality, anonymity, and voluntary participation, were observed throughout the study and informed consent was obtained from all participants.

The data were analyzed using SPSS 22 software and descriptive statistics (mean, frequency) and inferential analysis tests (Spearman's correlation coefficient).

Findings

300 individuals participated in the study and remained until the end of the study. They were mostly male, housewives or self-employed and had a high school diploma (Table 1).

Table1) Frequency distribution of patients based on demographic characteristics

Variable	No. (%)
Gender	
Male	172 (57.3)
Female	128 (42.7)
Occupation	
Unemployed	12 (4.0)
Housewife	93 (31.0)
Employee	49 (16.3)
Self-employed	93 (31.0)
Student	19 (6.3)
Retired	23 (7.7)
Worker	11 (3.7)
Education level	
Illiterate	54 (18.0)
Elementary to diploma	153 (51.0)
Diploma to bachelor	76 (25.3)
Bachelor and higher	17 (5.7)

The majority of patients had moderate spiritual health (Table 2).

Table 2) Frequency distribution of patients according to levels of spiritual health

Spiritual health levels	No. (%)
High	4 (1.3)
Moderate	233 (77.7)
Low	63 (21.0)

Spiritual health had a significant negative correlation with depression, anxiety and stress ($p<0.001$; Table 3).

Table 2) Mean scores and correlation coefficients of DASS subscales with spiritual health

DASS subscales	Mean±SD	r
Depression	9.14±4.93	-0.500*
Anxiety	9.13±4.59	-0.504*
Stress	9.86±4.58	-0.391*

Discussion

The aim of this study was to determine the correlation between spiritual health and stress, anxiety and depression in patients hospitalized in general surgery ward.

The results showed that there is a negative correlation between spiritual health and depression, anxiety and stress. Also, in the present study, the majority of patients had moderate spiritual health, which was consistent with the study on chronic obstructive pulmonary disease patients in Brazil [31] and Zareipour's study on diabetic patients in Uremia, Iran [32]. In another study, most patients had moderate mental health issues and most of them had moderate spiritual health problems [23].

Based on the data from this study whatever the spiritual health of the patients is higher, the mean score of depression, anxiety and stress will be less. Several studies indicate that spiritual health is also able to enhance mental performance [33], and have suggested a positive relationship between religion and spiritual health and mental health [34, 35] and have pointed its effect on depression [36], including Cotton's study on 155 hospitalized American teenagers showed that religious health was associated with their depressive symptoms [37]. Dalmida *et al.*'s study also found an inverse relationship between spiritual health and depression in 129 HIV-positive American women [38]. In addition, Smith *et al.*'s meta-analysis study confirms a weak negative correlation between religious beliefs and depression [39]. Another study on the relationship between spiritual health and breast cancer patients in Iran also shows the effects of spiritual health on reducing depression [40].

Among other studies consistent with the current study on the relationship between spiritual health, anxiety and stress, Moeini *et al.* showed the impact of spiritual care on the mean score of anxiety in patients with leukemia in Isfahan, Iran [41]. Other studies that examine the relationship between spiritual health and stress on diabetic patients in Iran also confirm this point [32, 42]. Another study found that there is a moderate negative correlation between spiritual health and anxiety. Spiritual health and pain show a negative correlation, while anxiety and pain have a positive correlation [43].

In a review of various articles in this field, not all of which can be mentioned here, only one study in the

UK had results contrary to other studies in which religious people were more likely to have generalized anxiety disorder than non-religious people [44].

Finally, a review article examining 23 clinical trials confirmed the impact of religious interventions on depression, anxiety and stress [45].

So, paying attention to the spiritual health and needs of patients hospitalized in Surgery Unit seems necessary to control depression, anxiety and stress in them. But further studies are needed to discover the cause of this relationship and design interventions and care based on spirituality, and these methods can also be used as complementary medicine.

One of the limitations of this study was that the questionnaires were self-reports and may not reflect the actual behavior of the patients and may distort the results of the study. Further studies are suggested to investigate other factors affecting the studied variables. In addition, interventional studies are recommended to evaluate the effect of spiritual health-promoting interventions on depression, anxiety and stress in patients.

Due to prevalence of problems such as depression, anxiety and stress among hospitalized patients in Surgical Units and the positive impact that spiritual health had on these variables, it seems necessary to pay attention to solutions based on spirituality to reduce depression, anxiety and stress in them and promote people's mental health and improve the quality of care.

Conclusion

There is a negative correlation between spiritual health and each of the variables of depression, anxiety and stress and whatever the spiritual health of patients in the Surgery Unit is more they experience less depression, anxiety and stress.

Acknowledgments: The authors would like to express their gratitude to all the hospital staff and the patients who enrolled in this study.

Ethical Permissions: Ethical permission was obtained from Shiraz University of Medical Sciences. Ethical considerations, including confidentiality, anonymity, and voluntary participation, were observed throughout the study and informed consent was obtained from all participants.

Conflicts of Interests: The authors declare no conflict of interests.

Authors' Contribution: Jamalimoghadam N. (First author), Original researcher, Discussion author, Statistical analyst (30%); Dehbozorgi R. (Second author), Assistant researcher, Introduction author (25%)**;** Heydari N. (Third author), Original researcher, Methodologist, Introduction author, Discussion author (30%); Heydari F. (Forth author), Assistant researcher, Introduction author, Discussion author (15%)

Funding: There was no funding.

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