

The relationship between spiritual well-being, mental health, and quality of life in cancer patients receiving chemotherapy

Atefeh Zare¹, Namavar Jahromi Bahia², Fereshteh Eidy³, Neda Adib⁴,
Forouhari Sedighe⁵

¹Department of Midwifery, School of Nursing and Midwifery, Shiraz University of Medical Sciences, ²Infertility Research Center, Shiraz University of Medical Sciences, Shiraz, ³Department of Public Health, Esfarayen Faculty of Medical Sciences, Esfarayen, ⁴Department of Skill Lab, Shiraz University of Medical Sciences, ⁵Infertility Research Center, Research Center of Quran, Hadith and Medicine, Shiraz University of Medical Sciences, Shiraz, Iran

ABSTRACT

Background and Aim: Cancer is the second cause of death after cardiovascular diseases in the world. Each year, more than 70,000 new cases of cancer and 30,000 deaths from cancer have been recorded in Iran. Cancer also reduces quality of life (QoL) by creating negative physical and mental symptoms. The purpose of this study was to investigate the relationship between mental health, spiritual well-being and QoL among cancer patients receiving chemotherapy. **Method:** About 208 adults suffering from cancer and receiving chemotherapy in Shiraz hospitals were entered in the study and they were asked to complete the Paloutzian and Ellison Spiritual Well-being Questionnaire, and Goranowski Mental Health, Quality of Life and Excitement Questionnaire. For data analysis, descriptive statistics including mean (standard deviation) and frequency (percentages) were used in table and chart format, moreover Spearman correlation tests were also used. **Results:** The results of the study revealed that there was a positive and significant correlation between mental health and QoL ($P = 0.001$) in cancer patients receiving chemotherapy. The results of the study revealed that there was a positive and significant correlation between spiritual well-being and mental health ($P = 0.001$) and QoL ($P = 0.01$) in cancer patients receiving chemotherapy, but there was a negative and significant Correlation between spiritual well-being and negative emotions ($P = 0.47$). On the other hand, there was a negative and significant correlation between mental health ($P = 0.026$) and QoL ($P = 0.019$) and negative emotions respectively. **Conclusion:** The results of this study showed that there was a positive and significant relationship between spiritual well-being, mental health, and QoL in cancer patients.

Keywords: Cancer, Goranowski excitement questionnaire, mental health, quality of life, spiritual well-being

Introduction

Cancer is the second cause of death after cardiovascular diseases in the world.^[1] Studies have shown that about 60% of all cancer cases have occurred in developing countries, including Iran.^[2] Each year, more than 70,000 new cases of cancer and 30,000 deaths due to cancer have been recorded in Iran.^[3,4] Due to the

high incidence of this disease, cancer, or its complications may lead to psychological disorders, such as sleep problems, excessive anxiety about survival, and different forms of depression. These symptoms are often associated with poor quality of life (QoL) and health.^[5,6] QoL is one of the most important factors associated with survival of cancer patients.^[7]

Over the past two decades, many researches have described the importance of religion and spirituality in cancer research,

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: reprints@medknow.com

How to cite this article: Zare A, Bahia NJ, Eidy F, Adib N, Sedighe F. The relationship between spiritual well-being, mental health, and quality of life in cancer patients receiving chemotherapy. J Family Med Prim Care 2019;8:1701-5.

Address for correspondence: Dr. Forouhari Sedighe, Infertility Research Center, Research Center of Quran, Hadith and Medicine, Shiraz University of Medical Sciences, Shiraz, Iran.
E-mail: foruharis@sums.ac.ir

Access this article online

Quick Response Code:



Website:
www.jfmpc.com

DOI:
10.4103/jfmpc.jfmpc_131_19

clinical care and QoL in cancer patients.^[8] The hypothesis that people seek religion after facing major negative life events, especially when they have a life-threatening illness, has attracted more researchers to study on the relationship between faith and health in the last 15 years. Approximately 86–91% of advanced cancer patients have spiritual needs and often define these needs as spiritual challenges, spiritual search (example.g. looking for forgiveness) and life meaning after being diagnose with the disease.^[9,10]

The results of a study on advanced cancer patients who were newly diagnosed in 2014 showed that spiritual well-being is associated more with the QoL than physical or emotional health.^[11] A systematic overview of spiritual well-being and QoL in cancer patients in 2015 carried out by Bai M *et al.*^[12] revealed an independent and consistent relationship between general spiritual well being and QoL in cancer patients. It has been shown in numerous studies that social support, economic security, and faith in recovery improve QoL,^[13-15] and religious and spiritual functions improve QoL, physical health, hope, and general satisfaction of life.^[16-18] Considering the important role of improving the QoL in cancer patients, the aim of this study was to investigate the relationship between spiritual well-being, mental health, and QoLin cancer patients receiving chemotherapy.

Materials and Methods

The current study was a cross-sectional descriptive-analytic study. The inclusion criteria for the study consisted of: being Iranian and Muslim, having no known physical or mental illnesses, not smoking cigarette, hookah, or drug addiction, absence of emotional problems in the last 6 months (such as death of close relatives, parents' separation, family financial failures, accidents, and bad events), having the least skills of reading and writing, and the exclusion criteria for the study was the patient's unwillingness to cooperate. The statistical population of the study was cancer patients receiving chemotherapy and referred to Shiraz hospitals. Finally, 208 patients participated in the research.

Research Tools

In the present research, the Paloutzian and Ellison 20-question spiritual well-being questionnaire was used among which 10 questions measured religious health and 10 other questions measured existential well-being. The range of religious and existential well-being scores was 10–60 for each question. For sub-categories of religious and existential well-being, no rating and judgment is made on the basis of the scores. The higher the score is, the higher the religious and existential well-being will be. The spiritual well-being score is derived from the sum of these two sub-categories whose range was considered from 20 to 120. The answers to the questions were categorized from 'totally agree' to 'totally disagree' through the six-point Likert scale. Spiritual well-being is divided into three levels of low 20–40, medium 41–99, and high 100–120. In a study conducted by Seyyed Fatemi *et al.*^[19], the validity of the spiritual well-being

questionnaire was determined through content validity and its reliability was determined through Alpha Cronbach's coefficient of 0.82.

DASS-21 questionnaire, depression, anxiety, stress scale, is a set of three self-reporting scales for evaluating negative emotional states in depression, anxiety and stress. The significance of applying this scale is to measure the severity of main symptoms of depression, anxiety, and stress. The validity and reliability of this questionnaire has been investigated by Samani and Jokar (2008) in Iran. Each of the DASS-21 subscales includes seven questions; the final score of each one is obtained through the total score of the related questions. It is worth noting that the questionnaire includes scoring methods, interpretations, and related tables.^[20]

Statistical Methods

Descriptive statistic methods including mean (standard deviation) and frequency (percentage) were used for data analysis in the form of table, charts, and moreover Spearman correlation statistics tests were also used. The data were analyzed using SPSS version 23 software at a significant level of 5%.

Results

The results showed in Table 1 indicated that age range of 208 cancer patients receiving chemotherapy was 20–69 years old and most of participants were in the age group of 60–69 years old (34.1%). Regarding level of education, 29.8% of the patients had elementary education certification, 21.2% of them had intermediate education certification, 35.5% of them had high school education certification, 38.9% of them had diploma certification, and 13.5% were university graduated. The results showed that 94 (45.1%) patients were native residents of Shiraz and the rest were non-native residents.

The results of Table 2 are related to the correlation between the study variables. This table shows that people with higher level of spiritual well-being indicated higher level of mental health and they also have better QoL and they experience less negative emotions. In other words, cancer patients who had lower level of spiritual well-being experienced more negative emotions. There was a positive and significant correlation between spiritual well-being and mental health ($P = 0.001$) and QoL ($P = 0.01$), but it had negative and significant correlation with negative emotions ($P = 0.47$). On the other hand, mental

Table 1: Descriptive statistics of the participants' age

Participants' age (years old)	Frequency	Frequency percentage (%)
29-20	5	4/2
39-30	19	1/9
49-40	49	5/23
59-50	64	7/30
69-60	71	1/34
Total	208	8/99

health and QoL of patients showed a negative and significant correlation with negative emotions respectively ($P = 0.026$ and $P = 0.019$).

The results of Table 2 displayed that spiritual well-being had a positive and significant relationship with mental health ($P < 0.001$) and QoL ($P < 0.01$). There was a negative and significant relationship between negative emotions and spiritual well-being ($P < 0.047$) and mental health ($P < 0.026$). QoL displayed a positive and significant relationship with mental health ($P < 0.001$) and it had a negative and significant relationship with negative emotions ($P < 0.019$).

Discussion

Negative emotions and their coping strategies are of the most important issues in modern psychology, particularly the positive psychology. On the one hand, multiple researches have shown that spiritual well-being can dramatically increase the QoL and promote mental health. The current study mainly aimed at identifying and evaluating the correlation between spiritual well-being, mental health, and QoL. Most of the participants in the study were in the age group of 60–69 years old (34.1%) and highest percentage of educational qualification was related to diploma (38.9%).

The results also indicated a positive and significant correlation between mental health, QoL, and spiritual well-being. In addition, there was a negative and significant correlation between various psychological and emotional stresses and mental health, QoL, and spiritual well-being. Generally, the results indicated a relationship between mental health, QoL, and spiritual well-being in cancer patients and result was consistent with the results of other studies.^[21–23] In a review, Schreiber *et al.*^[24] suggested that religion and/or spirituality can clearly affect emotions and plays a role in maintaining and/or increasing well-being among breast cancer survivors. Another study by Vallurupalli *et al.* in patients with advanced cancer receiving palliative radiation therapy showed that spirituality and religious coping were associated with improved QoL in multivariable analyses ($\beta = 10.57$, $P < 0.001$ and $\beta = 1.28$, $P = 0.01$, respectively). Most patients considered attention to spiritual concerns as an important part of cancer care by physicians (87%) and nurses (85%).^[25] Also there was a positive and significant correlation between general QoL and total spiritual well-being scores ($r = 0.59$, $P < 0.001$) among women who had breast cancer and received radiation

therapy in Jafari *et al.*'s study.^[26] These results might be due to psychological mechanisms, spirituality and religiosity that were found to enhance psychological well-being by lowering levels of depression, anxiety, and hopelessness, and consequently, indirectly affect physical health.^[27]

As a result, the strategies that patients use to cope with these challenges can be important in predicting their QoL. In a few researches, there was a positive and significant correlation between the use of positive strategies for regulation of excitement and QoL; this means that the use of positive emotional regulation strategies improves the QoL. People who focus on positive activities and experiences confirm that even bad events might be constructive and they try to show bad events as less important events. They have more positive emotions and better QoL. Their results are consistent with the result of this study.

In a study carried out by Zamanian *et al.*^[28] on breast cancer patients, the relationship between scores of positive religious adjustment and QoL showed that those who wanted God to give them power and love, had better QoL. The results of the study conducted by Sun *et al.*^[8], also supported the importance of spiritual well-being in the field of oncology and considered it as a primary component of palliative care and overall QoL. Researchers also have concluded that patients who were under radiotherapy treatment seek religion and spirituality to adapt themselves with cancer, and therefore positive religious adjustment and inner spirituality brings them better QoL.^[29] This positive adaptation, including mental health and spiritual well-being, improves the QoL in cancer patients, and this result is in line with the results of present study.

The mechanism may be cognitive improvement that has not been extensively investigated as mediator in the association between religious coping and cancer treatment outcome.^[30] It also could be the results of peace, meaning, and faith demonstrating positive, and unique association with QoL.^[11] In this regard, a study done on deeply religious participants in Netherlands, which is a completely secular society, also showed that positive religious compatibility is less associated with higher levels of health and anxiety.^[31] The meta-analysis conducted by de la Torre-Luque *et al.*^[32] on psychological treatments to improve the QoL in cancer patients showed that the QoL is improved through psychological interventions, especially when patients need to adjust themselves with treatment.

In a clinical trial conducted by Moeini *et al.* to determine the effects of a spiritual care program, including supportive presence and religious rituals, on anxiety of leukemia patients, it was shown that there was no significant difference between the two groups before the intervention. However, after the intervention, mean score of anxiety were significantly lower in the experimental group in comparison to the control group ($P < 0.01$).^[33] Spiritual well-being leads to better QoL, better psychosocial function, and less invasive interventions at the end of life.^[10,34–36]

Table 2: Correlation between research variables

Variables	Spiritual well-being	Mental health	Negative emotions	Quality of life
Spiritual well-being	-	-	-	-
Mental health	*001/0	-	-	-
Negative emotions	047/0-**	026/0-**	-	-
Quality of life	*01/0	**001/0	019/0-**	-

***Difference is significant at 0.01. *Difference is significant at 0.1. **Difference is significant at 0.05.

Results of a study by Pedersen *et al.* in Denmark showed that two-thirds (64.8%) of participants reported that they believed in God and spiritual power. The results also showed that patients who believed in both God and spiritual power had better QoL than those who just believed in spiritual power.^[37]

In general, the results of our study indicated a positive correlation between spiritual well-being, mental health, and QoL in adult cancer patients.

Acknowledgements

The authors would like to thank the Research Vice-chancellor of Shiraz University of Medical Sciences and Infertility Research Center of Shiraz University of Medical Sciences for their financially supporting the study. Project grants No: 94-01-50-9269. Ethics committee code: IR.SUMS.REC.1394.S728.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

References

1. Ferlay J, Steliarova-Foucher E, Lortet-Tieulent J, Rosso S, Coebergh JW, Comber H, *et al.* Cancer incidence and mortality patterns in Europe: Estimates for 40 countries in 2012. *Eur J Cancer* 2013;49:1374-403.
2. Vakili M, Pirdehghan A, Adimi M, Sadeghian M, Akhondi M. Epidemiology and trend of cancer in Yazd, a central province of Iran, 2005-2009. *J Res Health Sci* 2014;14:210-3.
3. Afsharfard A, Mozaffar M, Orang E, Tahmasbpour E. Trends in epidemiology, clinical and histopathological characteristics of breast cancer in Iran: Results of a 17 year study. *Asian Pac J Cancer Prev* 2013;14:6905-11.
4. Larijani FA, Abedian S, Motamedi SM, Malekzadeh MM, Mohaghegh H, Sadeghi A, *et al.* The trend of national and sub-national burden of gastrointestinal and liver diseases in Iran 1990 to 2013; study protocol. *Arch Iran Med* 2014;17:33-53.
5. Bornbaum CC, Fung K, Franklin JH, Nichols A, Yoo J, Doyle PC. A descriptive analysis of the relationship between quality of life and distress in individuals with head and neck cancer. *Support Care Cancer* 2012;20:2157-65.
6. Oh H, Seo Y, Jeong H, Seo W. The identification of multiple symptom clusters and their effects on functional performance in cancer patients. *J Clin Nurs* 2012;21:2832-42.
7. Stefani L, Rotelli M, Frulli A, Amoroso L, Belloni L, Galanti G. Mental health and quality of life perception of surviving cancer patients: A pilot study. *J Funct Morphol Kinesiol* 2016;1:322-7.
8. Sun V, Kim JY, Irish TL, Borneman T, Sidhu RK, Klein L, *et al.* Palliative care and spiritual well-being in lung cancer patients and family caregivers. *Psycho-Oncology* 2016;25:1448-55.
9. Pearce MJ, Coan AD, Herndon JE, Koenig HG, Abernethy AP. Unmet spiritual care needs impact emotional and spiritual well-being in advanced cancer patients. *Support Care Cancer* 2012;20:2269-76.
10. Forouhari S, Teshnizi SH, Ehrampoush MH, Mahmoodabad SSM, Fallahzadeh H, Tabei SZ, *et al.* Relationship between religious orientation, anxiety, and depression among college students: A systematic review and meta-analysis. *Iran J Public Health* 2019;48:43-52.
11. Bai M, Lazenby M, Jeon S, Dixon J, McCorkle R. Exploring the relationship between spiritual well-being and quality of life among patients newly diagnosed with advanced cancer. *Palliat Support Care* 2015;13:927-35.
12. Bai M, Lazenby M. A systematic review of associations between spiritual well-being and quality of life at the scale and factor levels in studies among patients with cancer. *J Palliat Med* 2015;18:286-98.
13. Eom CS, Shin DW, Kim SY, Yang HK, Jo HS, Kweon SS, *et al.* Impact of perceived social support on the mental health and health-related quality of life in cancer patients: Results from a nationwide, multicenter survey in South Korea. *Psycho-Oncology* 2013;22:1283-90.
14. Miller RC, Atherton PJ, Kabat BF, Fredericksen MB, Geno DM, Deschamps C, *et al.* Marital status and quality of life in patients with esophageal cancer or Barrett's esophagus: The mayo clinic esophageal adenocarcinoma and Barrett's esophagus registry study. *Dig Dis Sci* 2010;55:2860-8.
15. Timperi AW, Ergas IJ, Rehkopf DH, Roh JM, Kwan ML, Kushi LH. Employment status and quality of life in recently diagnosed breast cancer survivors. *Psycho-Oncology* 2013;22:1411-20.
16. Hasan EM, Tabei SZ, Mahmoodabad SS, Fallahzadeh H, Nami M, Doroudchi M, *et al.* Studying the relationship between university students' anxiety and depression with religious orientation, quality of sleep and emotional cognitive adjustment. *NeuroQuantology* 2017;15.
17. Tarakeshwar N, Vanderwerker LC, Paulk E, Pearce MJ, Kasl SV, Prigerson HG. Religious coping is associated with the quality of life of patients with advanced cancer. *J Palliat Med* 2006;9:646-57.
18. Mahmoodabad SM, Ehrampoush M, Tabei S, Nami M, Fallahzadeh H, Namavarjahromi B, *et al.* Extrinsic or intrinsic religious orientation may have an impact on mental health. *Res J Med Sci* 2016;10:232-6.
19. Seyed Fatemi N, Rezai M, Givari A, Hosseini F. Prayer and its relation to the spiritual health of patients with cancer. *Payesh* 2006;5:295-304 (Persian).
20. Samani S, Joukar B. Validity and reliability shortform version of the depression, anxiety and stress. *J Soc Sci Humanit Univ Shiraz* 2008;26:65-77.
21. Niu JM, Kong FZ, Zhang YT, Shang YX. Study on the correlation between depression and emotion regulation strategies in the elderly residents. *Zhonghua Liu Xing Bing Xue Za Zhi* 2017;38:1611-5.
22. Wang L, Xu H, Zhang X, Fang P. The relationship between emotion regulation strategies and job search behavior among fourth-year university students. *J Adolesc* 2017;59:139-47.
23. Talaei-Khoei M, Nemati-Rezvani H, Fischerauer SF, Ring D, Chen N, Vranceanu AM. Emotion regulation strategies mediate the associations of positive and negative affect to upper extremity physical function. *Compr Psychiatry* 2017;75:85-93.
24. Schreiber JA, Brockopp DY. Twenty-five years later--what do we know about religion/spirituality and psychological

- well-being among breast cancer survivors? A systematic review. *J Cancer Survive* 2012;6:82-94.
25. Vallurupalli M, Lauderdale K, Balboni MJ, Phelps AC, Block SD, Ng AK, *et al.* The role of spirituality and religious coping in the quality of life of patients with advanced cancer receiving palliative radiation therapy. *J Support Oncol* 2012;10:81-7.
 26. Jafari N, Farajzadegan Z, Zamani A, Bahrami F, Emami H, Loghmani A. Spiritual well-being and quality of life in Iranian women with breast cancer undergoing radiation therapy. *Support Care Cancer* 2013;21:219-25.
 27. Thuné-Boyle IC, Stygall J, Keshtgar MR, Davidson TI, Newman SP. Religious/spiritual coping resources and their relationship with adjustment in patients newly diagnosed with breast cancer in the UK. *Psycho-Oncology* 2013;22:646-58.
 28. Zamanian H, Eftekhar-Ardebili H, Eftekhar-Ardebili M, Shojaeizadeh D, Nedjat S, Taheri-Kharameh Z, *et al.* Religious coping and quality of life in women with breast cancer. *Asian Pac J Cancer Prev* 2015;16:7721-5.
 29. Vallurupalli MM, Lauderdale MK, Balboni MJ, Phelps AC, Block SD, Ng AK, *et al.* The role of spirituality and religious coping in the quality of life of patients with advanced cancer receiving palliative radiation therapy. *J Support Oncol* 2012;10:81.
 30. Puchalski CM. Religion, medicine and spirituality: What we know, what we don't know and what we do. *Asian Pac J Cancer Prev* 2010;11(Suppl 1):45-9.
 31. Pieper JZ, de Vries-Schot MR, Van Uden MH. Religious and receptive coping importance for the well-being of Christian outpatients and parishioners. *Arch Psychol Relig* 2012;34:173-89.
 32. de la Torre-Luque A, Gambara H, López E, Cruzado JA. Psychological treatments to improve quality of life in cancer contexts: A meta-analysis. *Int J Clin Health Psychol* 2016;16:211-9.
 33. Moeini M, Taleghani F, Mehrabi T, Musarezaie A. Effect of a spiritual care program on levels of anxiety in patients with leukemia. *Iran J Nurs Midwifery Res* 2014;19:88-93.
 34. Balboni TA, Balboni M, Enzinger AC, Gallivan K, Paulk ME, Wright A, *et al.* Provision of spiritual support to patients with advanced cancer by religious communities and associations with medical care at the end of life. *JAMA Internal Med* 2013;173:1109-17.
 35. Balboni TA, Paulk ME, Balboni MJ, Phelps AC, Loggers ET, Wright AA, *et al.* Provision of spiritual care to patients with advanced cancer: Associations with medical care and quality of life near death. *J Clin Oncol* 2010;28:445-52.
 36. Peteet JR, Balboni MJ. Spirituality and religion in oncology. *CA Cancer J Clin* 2013;63:280-9.
 37. Pedersen HF, Pargament KI, Pedersen CG, Zachariae R. Religious coping and quality of life among severely ill lung patients in a secular society. *Int J Psychol Relig* 2013;23:188-203.