

Self-esteem and spiritual health in cancer patients under chemotherapy in Semnan University of Medical Sciences in 2014

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Farah Abbasian^{1,2}, Naim Sadat Kia², Majid Mirmohammadkhani², Farahnaz Ghahremanfard³, Elaheh Ghods^{2*}

1 Department of Nursing, Shahrood Islamic Azad University, Shahrood, Iran.

2 Social Health Determinants Research Center, Faculty of Medicine, Semnan University of Medical Sciences, Semnan, Iran.

3 Department of Internal Medicine, Semnan University of Medical Sciences, Semnan, Iran.

Abstract

Background and Objectives: Cancer as a frightening disease may affect people's confidence in their abilities, sense of controlling over their lives, and in other words self-esteem. Spiritual health as the main aspect of health can be an important source for calmness, decrease in existential distress, improvement of self-esteem and coping with the disease. This study was conducted to investigate the correlation between spiritual health and self-esteem in Iranian cancer patients.

Methods: This cross-sectional study was accomplished by obtaining Rosenberg Self-Esteem and Paloutzian & Ellison scales questionnaire from a convenience sample of 170 cancer patients who were referred for chemotherapy to hospitals of SEMNAN University of Medical Sciences. Data were analyzed by SPSS using one-way analysis of variance and Pearson correlation, and level of significance (P) was considered <0.05.

Results: Study group has shown a mean self-esteem score of 18.5 ± 3.5 and 98.1 ± 13.2 for spiritual well-being. There was a direct correlation between spiritual health and self-esteem after adjustment for sex, age, education level and marital status ($r=0.55$).

Conclusion: This study demonstrated that spiritual health was significantly associated with self-esteem in cancer patients. Considering critical conditions of cancer patients and their urgent need for maintaining and improving spiritual well-being, enhancement of spiritual health and self-esteem should be further emphasized in the treatment programs of these patients such that they and their families that represent a large population can be assisted to overcome the critical conditions.

Keywords: Health, Neoplasms, Self Concept, Spirituality.

* **Correspondence:** Should be addressed to Ms. Elaheh Ghods. **Email:** ghodsemla@yahoo.com

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Introduction

Nowadays, cancer is considered an important and fundamental healthcare problem across the world (1), and is increasing in prevalence in Iran. It represents the third leading cause of mortality and the second leading group of chronic non-communicable diseases. The pattern of population growth and aging, changes in lifestyle and promotion of Western eating habits, environmental pollution, and increased smoking rate are considered the main reasons for increased prevalence of cancer in Iran (1,2). As a surprising and worrying experience, diagnosis of cancer changes perception of life

and leads to making efforts to cope with this condition in affected people (3,4). Incidence of cancer, its therapies, and associated complications could have an in-depth effect on the patients' appearance and daily routines. Severe complications can even condemn the patients' social role and lead to their isolation (4-6).

Out of physical, mental, social, and occupational aspects of health, spiritual aspect of health has been attracting more attention in the past two decades (7). Spiritual health is the pivotal basis for other health pillars, causes consolidation and integration of different

aspects of health, and leads to peace (8). Development of cancer brings about a crisis that causes the patients' spiritual needs to intensify (9,10). Enhanced spiritual health not only relieves emotional distress but also strengthens coping mechanisms in patients with life threatening diseases (10-12). Enhanced spiritual health even mitigates the need for pharmacological interventions for disease-induced complications such as pain, and improves the disease prognosis (13).

Qualitative studies have demonstrated spiritual transformation, revision of the values, strengthening of moral characteristics, growth and flourishing of human traits, and resilience among the patients after diagnosis of disease, which is referred to as "awakening after being diagnosed with cancer" (14-16).

Spiritual health is a state beyond religion which is characterized with stability in life, balance, and coordination in close connection with God, community, and the surroundings (7-10,14,15). However, being connected with a reality greater than one's own existence can be represented by religion and religious behaviors such as attending worship locations, praying, pilgrimage, and relying on God, and achieving inner peace and make life meaningful through causing hope and promoting positive attitudes (9,14-17). It seems that religious people tend to tolerate lower stress in facing injury and illnesses such as cancer because of hoping for God's assistance in critical conditions, enjoying spiritual support, and feeling attached to a supreme source (17-19).

Religion, as the shell and external demonstration of faith, has different groups, communities, and ceremonies around the world. Therefore, the strategies of spiritual health promotion and meaning making can variously affect disease stigma, process, and treatment depending on religious beliefs, culture, and customs of the communities (8,12,13).

Even if the patient is not believer in a religion, the treatment team's understanding this unique connection with metaphysical universe can play a determinative role in his/her treatment process and contribute to tolerating the disease-related consequences and treatment-associated

complications (17,18). Consistently, Taleghani et al. reported considerable findings on the significance and optimal effects of spiritual beliefs, and demonstrated that patients with higher spiritual health had better mental health and were treated more quickly (15). Moreover, Seligman and Csikszentmihalyi found that unlimited power of faith ensured patients that a strong power supported them (16). Mc Clain et al.'s study, conducted in the USA, confirmed the marked role of spiritual health, serving as a protective factor against disappointment and hopelessness among the patients diagnosed with incurable diseases by health care system (7).

Research results indicated that spiritual health and religious beliefs to be significant mechanisms of coping with crisis, and also found that spiritual health was associated with improved quality of life and mitigated distress (10,12,20).

Maintaining and enhancing the patients' self-esteem in dealing with the crises due to the disease is one of the most important concerns of the treatment teams such that the patients can cope with the limitations and disabilities caused by the disease that may disrupt even the easiest daily routines, and embrace the consequences of long-term and hard therapeutic regimens (20,21).

Self-esteem refers to one's attitudes toward and beliefs about him/herself that provides confidence in his/her own abilities, self-satisfaction, and sense of controlling his/her own life. Self-esteem is an important personal resource and is strongly correlated with mental functions (14,22). This self-esteem and reliance on one's own capabilities may undergo definite variations in certain conditions such as diseases (21,22). Diagnosis of cancer, repeated hospitalization, chemotherapy, and associated complications can make the patient dependent on others even for doing easiest jobs. They develop negative feelings as they could not rely on themselves for doing their job and even daily routines.

Besides as their appearance changed because of certain complications such as hair loss or wearing mask, they feel more challenge and

pressure about commiseration of others when they notice the disease.

Being afraid of infection or lack of response to treatment makes the patients feel hopeless toward their body's potential to overcome the disease. These conditions collectively cause damage to the patient's self-esteem and hope, and decline in quality of life, mental health, and difficulty accepting the treatment (18,21). Conversely, enhancing self-esteem can relieve cancer-induced stress in cancer patients; therefore, it is particularly important to identify effective factors on variations in self-esteem (17,18,22).

Association between levels of self-esteem and some factors has been investigated (18-22). Depending on gender and the culture and current beliefs in different communities, self-esteem has different standards. It seems that the association of spiritual health and self-esteem cannot be investigated completely and comprehensively without considering these factors (22-27).

In the recent decades, the role of religion and spiritual potentials in fighting cancer has been specifically studied. This spiritual and metaphysical return after being diagnosed with cancer plays the most important part in development of coping responses and leads to enhanced self-esteem, hope, and emotional peace in the long term (21-24). Some studies have demonstrated the positive effect of spiritual strategies to increase self-esteem and optimism in coping with cancer-induced stress and prognosis (22,25).

Evidence indicates that enhancement of spirituality causes not only increase in self-esteem, but also growth and transcendence of mental health, faith-induced peace, and spiritual adjustment due to the recognition developed after initial crisis following cancer diagnosis (16-21). The main contribution of religion and spirituality to mental health and self-esteem has recently attracted further attention in studies (5,8-10,26).

Although many studies that have recently been conducted on spiritual health among cancer patients in Iran, the association between spiritual health and self-esteem has been less frequently studied. This study was conducted

to investigate the association between spiritual health and self-esteem in cancer patients.

Methods

In this cross-sectional study, 170 cancer patients referred to the Chemotherapy Ward of Kowsar and Fatemiyeh Teaching Hospitals were selected by convenience sampling method. Sample size was determined to be 176 (population proportion ratio 8%, precision 4%, maximum type 1 error 5%, and confidence interval 95%). Six uncomplete questionnaires were excluded and the data from 170 patients analyzed.

The inclusion criteria were definite diagnosis of cancer, made by a subspecialist, and the patient's being informed about having cancer and the exclusion criteria suffering from other incurable diseases, psychiatric disorders, according to the patient's self-report and medical document, and other critical conditions alongside cancer.

The patients demographic characteristics including age, marital status, and education level were recorded. The data were gathered by Spiritual Well-Being Scale (Paloutzian & Ellison) and Rosenberg Self-Esteem Scale.

Paloutzian & Ellison Spiritual Well-Being Scale, this scale consists of 20 items, 10 of which investigate religious aspect of spiritual health and the rest existential aspect. Sum of the scores of two subscales, religious health and existential health, represents spiritual health score which ranges from 20 to 120. The items are rated by a 6-point Likert scale, from strongly disagree to strongly agree (27). According to the scale's instructions, scores are categorized in the following manner: 20-40 low, 40-99 moderate, and 100-120 high (28). The validity and reliability of this questionnaire were determined by Sefidi's study on the students of Ghazvin University of Medical Sciences (29).

Rosenberg Self-Esteem Scale, this scale consists of 11 items and is currently using a Likert scale to measure self-esteem. The scores range from 0 to 31 and therefore the highest possible score is 31 with no cut-off score. However, the scores 15-25 represent high and normal self-esteem and the scores under 15 low

Table 1: Mean (SD) scores of spiritual health (Paloutzian & Ellison Spiritual Well-Being Scale) and self-esteem (Rosenberg Self-Esteem Scale) according to demographic and socioeconomic characteristics of the study group

Variable	No (%)	Mean (SD) score of Spiritual health*	Mean (SD) score of self-esteem	
Age	<45	57 (33.5)	94.7 (15.4)	18.1 (4.0)
	45-59	73 (42.9)	98.6 (12.0)	18.5 (3.3)
	≥60	40 (23.6)	99.5 (12.7)	19.3 (3.2)
sex	female	107 (62.9)	96.4 (13.7)	18.4 (3.6)
	male	63 (37.1)	99.5 (12.9)	18.8 (3.4)
Marital status	single	15 (8.8)	97.4 (10.9)	19.7 (2.0)
	Married	134 (78.8)	98.4 (12.3)	18.4 (3.5)
	Widowed/divorced	21 (12.4)	92.2 (19.9)	18.7 (4.5)
Education level	Illiterate	38 (22.4)	97.4 (18.9)	18.4 (3.9)
	Primary school	79 (46.5)	98.4 (15.7)	18.2 (3.7)
	Diploma	32 (18.8)	97.3 (19.2)	19.1 (3.5)
	Academic	21 (12.4)	101.6 (7.4)	19.0 (1.8)

* P>0.05 for association of all of the variable groups with spiritual health and self-esteem

self-esteem (30). This scale has also been validated to measure self-confidence in cancer patients (31). The validity and reliability of this scale were measured and confirmed to be acceptable by Rajabi et al. study on the students of Shahid Chamran University, Ahvaz (32).

Essential information about the study was given to the patients and then they signed informed consent to participate in the study. Afterwards, the researcher filled out the questionnaires through interview. To keep the information confidential, all the participants were ensured that the data are recorded and processed as encoded.

The quantitative data were expressed as mean (standard deviation) and the qualitative data as number, percentage, and frequency tables. To analyze the data, ANOVA, independent t-test, and Pearson correlation in SPSS 16 were used and P<0.05 was considered the level of significance.

Result

Table 1 shows the patients demographic characteristics consisting of age groups, gender, marital status, and education level. Mean (SD) age and duration of suffering from cancer was 49.8 (15.1) years and 12.2 (16.1) months, respectively. Most patients had breast cancer (30%) and blood cancer 14.7%). Sixty one (35.9%) patients had metastasis and the rest were reported to have no metastasis.

Besides that, the mean (SD) scores of spiritual health and self-esteem according to age, gender, marital status, and education level are

shown in Table 1. Interestingly, age, gender, marital status, education level, and duration of cancer diagnosis and treatment were not significantly associated with spiritual health and self-esteem.

The mean (SD) score of spiritual health, existential health, and religious health was 98.1 (13.2), 45.5 (8.6), and 52.4 (6.5), respectively. Spiritual health was high in 140 (82.4%) patients, moderate in 30 (17.6%) patients, and low in no patients. The mean (SD) score of self-esteem was derived 18.5 (3.5). Self-esteem was low in 19 (11.2%) patients, moderate in 151 (88.8%) patients, and high in no patients.

The mean score of self-esteem was 14.8 (3.9) in patients with moderate spiritual health and 19.3 (2.9) in those with high spiritual health with a statistically significant difference (P=0.001) according to t-test. According to Pearson correlation, spiritual health and self-esteem were significantly, positively, and moderately correlated (r=0.55, P=0.001). According to the correlation coefficient, existential health, spiritual well-being and self-esteem were significantly, positively, and moderately correlated with religious health and spiritual health (for both r=0.55, P=0.001). The correlation was significant for both male and female participants yet more marked in female ones (r=0.57). Regarding marital status, the correlation was significant only for married participants, and other variables such as age, duration of suffering from the disease, and education level were ineffective on this correlation.

Table 2. Comparison of mean scores of self-esteem and spiritual health among patients different types of cancer referred to chemotherapy clinics of teaching hospitals in Semnan

Type of cancer		Mean (SD) self-esteem score	Mean (SD) spiritual health score
Colorectal		98.0 (17.8)	18.7 (4.2)
Gastric and liver		95.7 (12.2)	18.4 (3.1)
Lung and larynx		96.8 (13.8)	17.7 (2.6)
Uterine, ovarian, and bladder		94.3 (17.8)	19.0 (3.1)
Breast		99.8 (12.1)	19.0 (3.1)
Lymphoma		98.5 (8.5)	19.0 (3.3)
Blood		96.3 (15.0)	17.9 (4.4)
Total		97.5 (13.4)	18.5 (3.5)
Metastasis	yes	94.9 (14.5)	17.8 (3.9)
	no	98.9 (12.6)	18.9 (3.2)

Analysis of variance for type of cancer $p=0.8$

Table 2 indicates the scores of spiritual health and self-esteem in patients for different types of cancer and presence or absence of metastasis. Although the mean scores of spiritual health and self-esteem were higher in patients without metastasis, differences were not statistically significant regarding different types of cancers and presence/absence of metastasis.

Discussion

The present study was conducted to investigate the association between spiritual health and self-esteem in cancer patients under chemotherapy. This study found spiritual health to be high in most of the patients. Rezaei et al. also reported spiritual health score 98.35 in a similar population which is very approximate to our findings (33). But, Habibi et al. reported moderate spiritual health score in over 70% of cancer patients under chemotherapy, which can be in agreement with our study considering different cut-off scores spiritual health between the two studies (the mean score of spiritual health 88 in Habibi et al. study) (11). Spiritual health score was also reported to be moderate in Jafari et al. (34), Vejdani et al. (35), and Moghiman and Salmani (36) studies.

However, moderate score of spiritual health reported by Aghahosseini et al. with similar cut-off of spiritual health (28), and Mohebbifar and coworkers in Cancer Research Center (12). This inconsistency in the findings can be explained by different mean age, duration of the disease, type of cancer, studied patients (newly diagnosed or under chemotherapy or radiotherapy), and culture of the patients, also

cancer patients' admitted to Cancer Research Center, a referral center are different as they are more frequently complicated cases or have past history of treatment failure.

After development of cancer, positive and negative attitudes are simultaneously developed in the patients (3). Qualitative studies to investigate the mechanisms of coping with cancer confirm the unique role of positive meaning, spiritual health and faith among the strategies to fight cancer (19,20). Prayer, worship, and religious ceremonies, as external demonstrations of spiritual health and faith, support the patients against disease crisis (20,22). Even, the effect size of periodicity and details of rituals has been investigated on positive meaning and in enhancing spiritual health (8-10,37). The findings of similar studies conducted in different countries confirmed the effect of these rituals on strengthening positive meaning and enhancement of spiritual health and, finally relief of existential distress due to incurable diseases such as cancer (15,17,19).

Overall, most studies conducted in Iran have not reported low score of spiritual well-being in cancer patients (15,28). High spiritual health may emanate from native culture and religion beliefs in Iran. Different spiritual health scores among similar studies in our country could be explained by contrasting study design or diverse measurement scales of spiritual health. On the other hand, differences in duration of the disease and treatment, type of cancer, and presence of metastasis are more likely to clarify the inconsistency in the reported findings.

Compared with spiritual well-being scores of cancer patients, the spiritual health scores of patients with heart failure (38), renal failure under hemodialysis (39), and multiple sclerosis (40) have been reported to be moderate.

Taken together, several studies have demonstrated direct correlation between spiritual well-being and mental health in patients with chronic and life threatening diseases (28,33,35,38-41). The unlimited power of faith ensures patients that a strong power supports them (6,13,15,42). As a result, the patient can manage his/her own disease more efficiently (40). Patients with higher spiritual health have better mental health and are treated more quickly (8,12,26). High spiritual health and its marked effect on cancer prognosis can be considered normal in the light of Iran's cultural, native, and religious characteristics.

Besides that, the score of religious aspect of spiritual well-being was higher than that of existential aspect in this study, which indicates that religious and cultural conditions in Iran may help the patients overcome the disease-induced stress. This finding is consistent with Mohebbifar et al. (12), Aghahosseini et al. (28), and Zarei et al. (40) studies. In contrast, Safavi et al. study indicated that existential aspect of spiritual health was higher among heart failure and hemodialysis patients (38).

It seems that inconsistency in the findings can be explained by lower levels of mental health in the participants in these studies. However, it should be considered that spiritual health level is generally the most potent predictor of quality of life (12,38,39).

Meaning-making evolution and coping adjust individual values to disease-induced consequences, and not only help maintain acceptable mental health level, restraint, and self-esteem status despite disease-induced stress but also provide the conditions to enhance spiritual health and resilience compared with the status before development of the disease in some of the patients (42).

Bahrami et al. have referred to this spiritual evolution as awakening after being diagnosed with cancer (19). Positive correlation between spiritual health and meaning making is being

increasingly studied, but longitudinal and prospective studies should be conducted to confirm this association more definitely (17).

For association between spiritual health and demographic characteristics, it was found that as age increased, the levels of spiritual health significantly enhanced, which is consistent with Rezaei et al. (33), Rowe and Allen (5), and Moghiman and Salmani (36) studies, but inconsistent with Aghahosseini et al. (36) and Mc Clain et al. (7) studies.

It seems that people tends to be more attracted by spirituality with increase in age and incidence of chronic diseases, and therefore exposure to the reality of death (5,19, 23). In contrast, young people have greater expectations from their life and expect greater performance from his-herself. Accordingly, self-esteem and quality of life are adversely affected by performance-related restrictions due to disease and treatment in young people (3). It can be argued that various approaches should be considered to enhance spiritual health and self-esteem in different age groups of cancer patients.

In this study, no significant differences in the scores of self-esteem and spiritual health were seen between the patients with and without metastasis. However, some studies reported the direct relationship between metastasis and existential distress (25,26,43). This could be explained by declining mental health and self-esteem level and increasing incidence of depression by approximating risk of death due to diagnosed metastatic cancer.

In this study, gender, marital status, education level, and the duration of diagnosis and treatment were not found to be significantly associated with spiritual health. Livneh et al. also did not find any significant association of education and gender with spiritual health (24). In addition, Rezaei et al. study did not find any association between education and spiritual health (33), and Mc Clain et al. reported no association between spiritual health and marital status (7), although most studies have not reported any significant association between demographic characteristics and spiritual health (3,14,19). To elucidate the association among some variables found in this study and

other researches, studies with more elaborate designs should be conducted. Generally, demographic and socioeconomic are various and have complicated inter-relationship. Sufficiently large studies help conduct modeling to find and enhance health and quality of life in the patients and their families.

Suffering from life threatening diseases, such as cancer, and fighting death lead to hopelessness, feelings of emptiness and regret, and therefore existential inability and distress. Paying attention to this aspect of health contributes greatly to treatment and mental and psychological coping in cancer patients (17). After initial denial and avoidance behaviors, meaning-making coping occurs. Approaches to exploiting meaning making strategies have been developed by understanding cognitive process in cancer patients (22).

Although research findings encourage treatment teams to use meaning-making approaches and enhance spiritual health in therapeutic protocols for patients with hard-to-treat diseases, the effect size of these approaches on disease prognosis has not been clearly explained. This issue may be related to study designs suffering from insufficiency of the standards set for sample size or duration of the study, or spiritual health interventions being accompanied by other psychological, educational, or behavioral interventions, which makes the results difficult to explain (3,14, 25).

In some other studies, baseline data have not been available before the intervention (22), or starting meaning-making after being diagnosed with hard-to-treat diseases such as cancer has yielded no remarkable outcomes or been associated with incidence of negative emotions, which can rarely overcome the patients' physical discomforts (13). These limitations can explain inconsistency in the findings of different studies. The present study also did not include the baseline data on self-esteem and spiritual health before cancer diagnosis.

Some studies have demonstrated that having self-esteem after receiving cancer diagnosis can relieve existential distress (17-19). In the present study, enhanced self-esteem was observed in the patients under chemotherapy,

which is consistent with Lee et al. study. Enhanced self-esteem causes mitigation of disease consequences and its routine therapies (22). Although in the present study, the patients' self-esteem was not measured at baseline, enhanced self-esteem after acquisition of cancer is consistent with several quantitative (21,22) and qualitative (14) studies.

High self-esteem can help increase capability of coping with the disease and existential risks and change attitude toward life (24). Mahdizadeh et al. found such an association between meaning making and self-esteem as well as its significant effect on existential health and quality of life in a group of university students in Iran (44).

Considering different standards in different communities and populations, different approaches should be adopted to enhance self-esteem (21,22,30). Regarding the involved organ, spiritual health, and self-esteem, the findings indicated that self-esteem and spiritual health scores were higher in the patients with breast cancer yet insignificantly. It seems that studies with larger sample size and more comprehensive designs should be conducted to find significant changes in self-esteem and spiritual health for the type of cancer and the involved organ so that the rate of resulting inability and quality of life of the patients can be measured more closely.

Religious rituals, their forms and periodicity, and associated ceremonies, as external demonstrations in fighting cancer, have been specifically discussed (23,37). This type of coping can lead to making life purposeful and meaningful and, in the long-term, enhancing self-esteem, hope, peace, and emotions (19,20). Few studies have yet been conducted to specifically investigate the association between these two important variables in Iran and across the world. The present study is novel and can be considered as a starting point for similar studies, and may contribute to supplementing and developing cancer patients' treatment protocol.

This study had some limitations such as convenience sampling method, filling out the questionnaires through interview, and lack of stratifying the data for different types of

cancers. In addition, conducting experimental studies, instead of investigating the association between spiritual health and self-esteem, can reveal the effect of spiritual health on self-esteem and its size.

The findings of this study indicated that spiritual health and self-esteem were significantly correlated. To the best of our knowledge, no study has yet been conducted to comparatively investigate the correlation between self-esteem and spiritual health in patients with different types of cancer. Enhanced spiritual health causes decrease in the effects of self-esteem declining factors among patients with cancer (34). Detection of effective factors on variations in self-esteem plays an important role in success of the treatment (21,22,43). Consistently, Moghiman and Salmani demonstrated a direct correlation between hope and spiritual health in cancer patients (36). Seligman and Csikszentmihalyi concluded that high self-esteem attenuate anxiety and stress and therefore more optimistic image of the future in patients (16).

Conclusion

This study demonstrated that spiritual health was significantly associated with self-esteem in cancer patients. Considering critical conditions of cancer patients and their urgent need for maintaining and improving spiritual well-being, enhancement of spiritual health and self-esteem should be further emphasized in the treatment programs of these patients such that they and their families that represent a large population can be assisted to overcome the critical conditions.

Conflict of interest

No potential conflicts of interest relevant to this article were reported.

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