

Association between Perception of Prognosis and Spiritual Well-being among Cancer Patients

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ABSTRACT

Introduction: Disclosure of cancer prognosis is one of the most difficult challenges in caring of cancer patients. An exact effect of prognosis disclosure on spiritual well-being of cancer patient was not completely investigated. Therefore, the present study aimed to investigate the relationship between perception of prognosis and spiritual well-being among cancer patients.

Methods: In this descriptive-correlational study, which conducted in 2013, two hundred cancer patients referred to Shahid Ghazi Hospital and private offices of two oncologists in Tabriz participated with convenience sampling method. Perception of prognosis was investigated by Perception of Prognosis Inventory and spiritual well-being of cancer patients was investigated by Paloutzian and Ellison Inventory. Data were analyzed using descriptive statistics and Pearson correlation test.

Results: Participants reported positive perception about the prognosis of their disease (score 11 from 15) and rated their spiritual well-being as high (score 99 from 120). There was a positive correlation between the perception of prognosis and spiritual health among cancer patients.

Conclusion: Disclosure of cancer prognosis has negative effects on cancer patients. This result highlights the importance of considering cultural factors in disclosure of cancer prognosis. According to limitations of the present study approving these results need more studies.

Introduction

Cancer diagnosis creates a lot of stress for patients and their families.¹ So, the disclosure of cancer diagnosis and its other relevant information to the patients and their relatives is a challenge in clinical oncology.² Today, in many Western countries, full disclosure of cancer diagnosis is confirmed. It should be noted that in many European and North American cultures, full disclosure of relevant information regarding cancer, including prognosis, is not still widely acceptable.³ In fact, the disclosure of cancer prognosis is the most difficult situation in the care of cancer patient.⁴ Studies in Iran have shown that

many cancer patients are unaware of their diagnosis.^{5,6} In relation to prognosis, the results of a study showed that only 7% of Iranian cancer patients were aware of their prognosis.⁷

One issue that has a great impact on the changes of information disclosure practices associated with cancer is the effect of disclosure of such information on the patient's mental status. Especially in this area, disclosure of information related to prognosis is important and has a deeper impact on patients. Regarding prognosis, the results of a systematic review showed that there are little information about the effects of disclosure of cancer prognosis on the psychological, social

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and spiritual status of the cancer patient.⁴ In this regard, the results of some studies have shown that disclosure of cancer prognosis could have negative effects on the physical and mental health of cancer patients.⁸⁻¹² On the other hand, other studies have shown that disclosure of cancer prognosis does not have a negative impact on patients' survival and psychological condition.^{13,14} Due to limited studies on the effect of disclosure of cancer prognosis on mental and psychological health of the cancer patients, there is an urgent need for new studies in this area.⁴

The diagnosis of cancer can threaten patients' understanding of life and their spirituality.¹⁵ Spiritual health is a combination of spiritual and religious wellbeing.¹⁶ Using of spiritual resources as an important resource for coping with cancer is very common among cancer patients. Spiritual coping maintains self-esteem and sense of purpose and meaning; provides emotional support; and inspire hope in cancer patients.¹⁷ This is why the spiritual condition and spiritual concerns of cancer patients has a very important role in the care of such patients.¹⁸ Many studies have emphasized on the importance of spiritual health for cancer patients. For example, a study showed that patients with a higher spiritual health were cope with their condition more effectively and obtain a more positive meaning of their illness.¹⁹ In this regard, the results of a study in the United States showed that spiritual health prevents cancer patients from hopelessness and suicide.²⁰ The results of another study in the United States showed that spiritual beliefs play a key role in improving the mental health status of patients with advanced cancer.²¹ Jane Watson, who is one of the most influential theorists in nursing, has many references to the importance of spiritual dimensions in her theory of human caring, and identifies human as having two material and spiritual dimensions. She considers the balance

between the spiritual and physical dimensions to be essential in creating the perfect balance in human. Watson also sees spirituality as an important factor for recovery and believes that spiritual damage can lead to damage to the whole person.²²

Some studies investigated the impact of cancer information disclosure on patients' spiritual health. For example, a study in Taiwan showed that patients aware of their cancer diagnosis had higher spiritual health.²³ Results from Agha Hosseini *et al.*, in Iran also showed that awareness of cancer diagnosis did not affect the spiritual health of cancer patients.²⁴ Two studies were found on the effects of disclosure of cancer prognosis on patient's spiritual health. The results of these studies showed that awareness of prognosis helps in promoting patients spiritual health.¹⁹ Another study results showed that regardless of threat of cancer towards life, higher spiritual health is associated with less stress and high quality of life.¹⁶ It should be noted that in a qualitative study in Iran, it was found that although awareness of cancer diagnosis may have low and short term spiritual stress on the patient but awareness of cancer prognosis can have long term and deeper effects on the spiritual health of patients.²⁵ According to a systematic review⁴ and extensive literature review conducted by researchers very little literature exist regarding the effect of prognosis disclosure on the psychological status of cancer patients. Access to such information, particularly in Iran, can be a great help to develop local guidelines for the disclosure of relevant information related to prognosis. Especially because of importance of spiritual resources for the coping of Iranian patients with their illness,²⁵ examining the impact of prognostic information on the patients' spiritual dimension seems necessary. Therefore, the present study aimed to investigate the relationship between the perception of prognosis and spiritual well-being among cancer patients.

Materials and methods

This study was a descriptive- correlational study which was conducted from May to November 2012. The setting included hospital and out-patient clinic of Shahid Ghazi Tabatabai affiliated to Tabriz university of medical sciences (Tabriz, Iran). This hospital was the main center for the care and treatment of cancer patients in East Azerbaijan Province. To avoid any bias in sampling, two private oncology offices in Tabriz were chosen as the setting for sampling.

The study population included all the patients who referred to the selected hospital and private offices for curative or palliative care during the study. The inclusive criteria included: patients who were diagnosed with cancer, at least 18 years of age, be aware of the exact diagnosis of cancer, the ability to communication, and passing at least 6 months from the date of cancer diagnosis. Furthermore, failure to complete the questionnaire, having the risk of other physical chronic diseases, and suffering from a severe mental illness that impair the patients' cooperation were considered as exclusion criteria. According to a pilot study on 20 cancer patients, the sample size was identified with indexes of $\alpha = 0.05$, Power = 0.90, $r = 0.21$ as 191 patients. To deal with the possibility of sample loss during the study, sample of 220 patients were invited to participate in the study. Convenient sampling method was used and all the patients who were eligible for the study were invited to participate in the study. It should be noted that 15 patients were withdrawn from the study and 5 patients also left uncompleted questionnaire. Finally, data were collected from 200 patients.

In this study, the questionnaire that was used to collect data consisted of three parts. The first part included demographic characteristics and disease related characteristics of cancer patients. The second part consists of three items that examined the

patients' perception towards the prognosis of cancer. These three items were designed based on literature review and were approved by regional Ethics Committee. Responses to each item were based on a 5-degree Likert scale from very low to very high. Scores from 1 to 5 were respectively assigned to them. The final score was from 3 to 15 and the higher scores indicated a more positive perception of the prognosis. Third part of the questionnaire was Paloutzian and Ellison (1982) Spiritual Health Inventory.²⁶ This questionnaire examined the two dimensions of religious health and spiritual health. It has 20 items, 10 items including religious health and 10 items related to spiritual health. The responses to these items were based on 6-degree Likert scale including "completely disagree", "disagree", "slightly disagree", "slightly agree", "agree", and "totally agree". In the questionnaire, some items with totally disagree allocated score 1, and in other items totally disagree was given score 6. Thus, the final score was calculated with a variation of the range of 20 to 120. Higher scores indicated a higher spiritual health.²⁶ It should be noted that this inventory have also been used in other study in Iran.²⁴ In this study, the spiritual health inventory of Paloutzian and Ellison (1982) was translated into Persian by an expert English translator. Then, the validity of the questionnaire was determined by ten faculty members of Tabriz university of medical science in nursing (6 people), oncology (2 people), medical ethics (1 person), and Islamic teachings (1 person). Based on opinions of these experts, minor changes to the questionnaire were applied. The reliability of the questionnaire was determined using Cronbach's alpha after the pilot study on 20 cancer patients. The coefficient was 0.85 for the perception of the prognosis inventory, and 0.88 for the spiritual health inventory.

Before the data collection, the research proposal was approved by the regional ethics committee at Tabriz University of Medical

Sciences. Then the permission for sampling was obtained from the managers of a selected hospital and oncologists. Next, the researchers after introducing themselves to the health care staff working in the research setting started the sampling. At each visit to the research setting, the patients who met the study criteria were identified. One of the important inclusion criteria was the patients' knowledge of their exact diagnosis. In this regard, information was obtained from nurses and patients' relatives, and this information approved via a private interview with patients. This procedure was approved by the Regional Ethics Committee. Furthermore, the study objectives and the necessary information were given to all the patients and informed consent was obtained from all of them according to the Regional Ethics Committee guideline. The questionnaires were handed to the literate patients, and for the illiterate cases, a private interview was conducted to complete the questionnaire.

Statistical analysis was performed using SPSS for Windows 13.0 (SPSS Inc., Chicago, IL, USA). To describe the characteristics of patients, patients' perception of prognosis, and spiritual health of patients, descriptive statistics including frequency, percentage, mean, and standard deviation were used. To investigate the relationship between perception of prognosis and mental health, Pearson correlation test was used. α less than 0.05 was considered statistically meaningful.

Results

Some of the demographic characteristics of the participants are given in table 1. As shown in this table, most of the participants were female, married, had a primary level of education, and reported excellent family support.

The perception of the prognosis of cancer is given in table 2. As shown in this table, the participants had a positive perception about the prognosis of their disease (score 11 from

15). Among the items, the most positive perception was towards the item "curability of the disease", and the most negative perception was for the item "having a normal life".

The participants' responses to each item of the spiritual health inventory are given in table 3. As shown in this table, participants reported their spiritual health as high (score of 99 out of 120).

In relation with the main aim of the study which was investigation the relationship between perception of prognosis and spiritual health, Pearson correlation test results showed that there was a statistically significant positive correlation between these variables ($r = 0.001$, $p = 0.38$). It means that perception of prognosis was predict 14% of variance of spiritual health ($R^2 = 0.38 \times 0.38$).

Table 1. Demographic characteristics of cancer patients

Variable Groups	N (%)
Gender*	
Female	103 (52.6)
Male	93 (47.4)
Marital status*	
Single	25 (12.6)
Married	173 (86.9)
Divorced or widow	1 (0.5)
Educational level	
Illiterate	36 (18.0)
Primary	49 (24.5)
Secondary	34 (17.0)
Collage	46 (23.0)
University	35 (17.5)
Family support	
High	140 (73.3)
Good	31 (16.2)
Medium	11 (5.8)
Low	9 (4.7)
Age** (year)	44.5 (15.6)
Elapsed time from knowing the diagnosis** (month)	2.5 (3.0)

*Some patients did not answer to these items, ** Mean (SD)

Discussion

Based on an extensive review of literature, this study was the first to investigate the relationship of perception of prognosis with

spiritual health of Iranian cancer patients. Besides, very few studies have been conducted in other countries on this matter. The results of this study showed that Iranian cancer patients had a high positive perception of their illness prognosis (score 11 out of 15). However, in this study, due to the unavailability, actual cancer prognosis for each patient was not determined, but according to the incurable nature of cancer, such an understanding of the prognosis does not seem consistent with reality. In this regard, the results of a previous study in Iran showed that most patients were not aware of the prognosis of their cancer and they usually consider this prognosis to be better than the reality of their disease.²⁷ In this regard, the results of another study in Iran showed that 93% of Iranian patients with cancer did not know their prognosis.⁷ Therefore, the results of this study confirm the findings of this study and shows that the perception of Iranian patients of their cancer is not correct. But this study showed for the first time that patients' perception of their prognosis was very positive, and this issue was not reported quantitatively in previous studies. It should be noted that this problem is not particular to Iranian patients with cancer and results of some studies in Western countries^{28,29} and non-western countries³⁰ have shown that a significant proportion of cancer patients in these countries do not have the right information of their prognosis.

The results of this study showed that participants had a high level of spiritual health (score of 99 out of 120). In this regard, Aghahosseini et al., in East Azerbaijan province showed that the spiritual health score of cancer patients were 75 out of 120 which were consistent with the present study results.³¹ Similarly, results of Baljani et al.³² showed that the spiritual health score of cancer patients admitted to a medical center in Urmia was 93 which is consistent with the results of the present study. Thus, it appears that the level of spiritual health in Iranian patients with cancer is high. In this regard, the results of a qualitative study in Iran showed that spiritual resources were the most important sources of Iranian cancer patients for coping with their disease.²⁵ It is worth mentioning that the spiritual health can have important long-term effects on cancer patients in coping with their illness. Including the promotion of patients' self-esteem, a sense of meaning and purpose, providing emotional support and a sense of hope.¹⁷

The main finding of this study showed a significant positive correlation between the spiritual wellbeing and perception of prognosis in cancer patients participating in the study. In other words, the more positive the perception of prognosis in patients, the levels of spiritual health increased and vice versa. This finding can be explained along

Table 2. Responses of participants about items of perception of prognosis inventory

Items	Very low N (%)	Low N (%)	Medium N (%)	High N (%)	Very High N (%)	Quantitative Score	
						Mean (SD)	95%CI
Drug impact on the treatment*	2 (1)	9 (4.5)	54 (27.3)	75 (37.9)	58 (29.3)	3.86 (0.98)	3.72, 4.00
Having a normal life*	0 (0)	8 (4.2)	99 (52.1)	57 (30.0)	26 (13.7)	3.36 (1.08)	3.20, 3.51
Illness being curable*	1 (0.5)	9 (4.6)	41 (20.9)	85 (43.4)	60 (30.6)	3.91 (1.02)	3.77, 4.05
Total score						11.1 (2.4)	10.78, 11.46

*Some patients did not answer to these items

Table 3. Average scores for patients participated in the study regarding spiritual health

Statements	Mean (SD)	95%CI
In praying and solitude with my God I am very satisfied	5.69 (0.54)	5.61, 5.77
I know who I am, where I am from, and where I will go	5.00 (0.97)	4.89, 5.18
I believe that God loves me and protects me	5.73 (0.59)	5.64, 5.81
I feel that life is a positive experience	5.41 (0.89)	5.27, 5.54
I believe that God watches me and my life every day	5.68 (0.63)	5.59, 5.77
I feel that I have a clear future	4.75 (1.47)	2.53, 2.97
I have a meaningful relation with God	3.52 (0.72)	1.41, 1.63
I reached perfection in life and I am satisfied with life	4.81 (1.20)	4.63, 4.99
I gain strength and support from God	5.58 (0.72)	5.47, 5.69
I have a good feeling towards the life I have ahead	4.92 (1.20)	4.74, 5.10
I believe that God is thoughtful about my problems	5.61 (0.70)	5.51, 5.72
I very much enjoy my life	4.77 (1.32)	4.57, 4.97
I have a good personal relation with God	5.50 (0.75)	5.39, 5.61
I have a good feeling about the future	4.86 (1.19)	4.68, 5.04
My relation with God helps me not to feel lonely	5.56 (0.77)	5.44, 5.68
I feel life has no hardship and morbidity	3.88 (1.62)	3.64, 4.12
When I have a close relationship with God, I feel complete	5.55 (0.79)	5.44, 5.67
Life has lots of meaning for me	5.23 (1.04)	5.08, 5.39
Relationship with God has a part in my wellbeing	5.65 (0.65)	5.55, 5.74
I believe that there is a purpose for my life	5.39 (0.95)	5.25, 5.54
Total score	99.12 (8.96)	97.78, 100.45

with other study findings that showed that the participating patients had a false positive perception of their prognosis. In other words, if patients are informed with a relatively poor prognosis of cancer, it is possible that their level of spiritual health is reduced. This finding has been discussed previously in an Iranian qualitative study. This study showed that cancer patients, who were informed of their negative prognosis of their disease, were also able to experience prolonged and intense spiritual stress.²⁵

Regarding the relationship of awareness of cancer diagnosis and spiritual health one study has been conducted in Iran and its results indicated that awareness of cancer diagnosis does not have a negative effect on the level of spiritual health of the patients.²⁴ On the other hand, the results of a study showed that in fact, what has a great impact on the spiritual health of Iranian patients with cancer is the awareness of cancer prognosis not cancer diagnosis.²⁵ Therefore, the results of this study also confirm these

findings. On the other hand, the results of studies conducted in Western countries show that disclosure of cancer prognosis does not have a negative impact on the spiritual health of cancer patients.^{16,19} Thus, it can be said generally that the cancer disclosure topic and its effects is a discussion related to the context and particularly culture and religion and the result of previous foreign studies and guidelines developed in Western countries could not be used in Iranian context. If these findings were placed alongside Jean Watson theory, it will be realized that if patient's moral aspect is damaged, injury to his whole and other dimensions would be imposed.²²

The results of this study can have important application in caring cancer patients. The results showed that perception of prognosis have a positive relationship with spiritual health. In simpler terms, a poor prognosis of cancer will result in decreased spiritual health. It should be noted that according to the results, patients have a false positive understanding of their illness and it

seems that in the present circumstances, the disclosure of prognosis in cancer patients may have a negative effect on their spiritual health. This matter shows the necessity of considering cultural factors in the care of cancer patients, especially in the field of cancer-related information disclosure. Although confirming these findings regarding the lack of local literature needs further studies. The results showed that Iranian patients with cancer have a good level of spiritual health and this indicates that it is better to make use of this strong point in any program for the care of cancer patients. Particularly with regard to spiritual health that can have effects on patients coping with their illness, using this strength in caring these patients is recommended.

This study had some limitations that may limit the application of its findings. In this study, only patients admitted to a medical center and two private offices were invited to participate and most patients had Azeri ethnicity. Therefore, the results are not generalizable to other cultures in Iran. In this study, due to the lack of specific diagnostic techniques and genetic testing it was not possible to accurately determine the exact prognosis for patients and perception of the prognosis of the patients were investigated. However, what ultimately impacts the mental condition of patients is their perception of the prognosis. But the possibility of determining the adaption rate of perception of prognosis with the actual prognosis of the disease was not possible. Furthermore, according to the sample of patients who mostly had the same religion and ethnicity it was not possible to determine the role of cultural, religious and ethnic groups. Therefore, it is recommended that similar studies are conducted in other ethnic background of the country and if possible the patient's perception of the illness prognosis be compared with the actual prognosis.

Conclusion

The results of this study showed that cancer patients have a positive perception of their prognosis were it is inconsistent with the incurable nature of cancer. Also, these patients had a high level of spiritual health. Finally, there was a statistically significant positive relationship between the perception of prognosis in cancer patients with their spiritual health. In other words, with the decline in positive perception of the positive prognosis of cancer, the spiritual health of patients dropped. This problem confirms the importance of considering cultural context in the discussion of disclosure of cancer-related information. In the present circumstances, the disclosure of information prognosis to the patients with cancer can cause damage to the patients. According to the limitations of the study and due to the lack of research literature in confirming these findings further studies are needed and generalization of the findings should be made with caution.

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Ethical issues

None to be declared.

Conflict of interest

The authors declare no conflict of interest in this study.

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