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Relationship of Spiritual Health and Hope with Resilience among Patients with Cancer

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ABSTRACT:
Introduction: Cancer leaves a considerable physical and psychological impact on the patient's life; therefore, it is necessary to pay attention to spiritual health, hope, and resilience in a person with cancer.
Objective: The present study aimed at determining the relationship between spiritual health and hope with resilience among patients with cancer referred to the oncology ward of Tohid Hospital in Sanandaj, in 2022.
Materials and Methods: This descriptive-analytical study was conducted on 250 qualified cancer patients referred to the Tohid Hospital oncology ward in Sanandaj in 2022. The data collection tools consisted of a demographic information questionnaire, the Conner and Davidson resilience scale (2003), the Paloutzian and Ellison spiritual well-being scale (1983), and Snyder et al.'s Hope questionnaire (1991). The participants were included in the study based on the convenient sampling method. After the data were collected through Stata16 software, the data were analyzed using the Mann-Whitney-U, Kruskal-Wallis, Spearman's correlation, and multiple regression statistical tests. A significance level of 0.05 was considered.
Results: The results showed a significant relationship between spiritual health and its dimensions (religious health and existential health) with resilience (r=0.549, P=0.001). The resilience of cancer patients significantly increased with the increase in spiritual health and its dimensions. Additionally, resilience significantly increased with the rise in Hope (r=0.340, P=0.001).
Conclusion: According to the results, a relationship exists between resilience, hope, and spiritual health among cancer patients. Hence, it is recommended that these findings be leveraged to enhance spiritual health, prolong hope, enhance psychological and spiritual health, and bolster resilience and adaptability during the illness and treatment process of patients.

Keywords: Spiritual Health, Hope, Resilience, Cancer

INTRODUCTION:

Cancer outbreaks have increased over recent years. Affecting various aspects of the physical, psychological, and social health of human life, cancer is among the major health problems of the century [1]. The annual incidence of cancer in the world will reach from 14 million patients in 2012 to 25 million patients in 2030, and more than 70% of these cases occur in developing countries [2]. The number of cancer patients in Iran also follows the same process, so cancer is the second death cause in Iran after cardiovascular diseases [3]. Patients with different kinds of cancers deal with many psychological disorders varying from depression, anxiety, maladaptation to disease, and low self-confidence to sensual disorders and fear of disease recurrence, and death. Also, failure in timely diagnosis and treatment of depression among patients suffering from cancer would result in harmful consequences, including less quality of life, negative impact on the patient's capacity for accepting somatic treatments, lower resilience and hope, less survival, and higher death rate among patients [4].

Cancer diagnosis would create many semantic crises in the patients so that a spiritual crisis occurs in the person that results in the advent of spiritual health concepts in the patients with cancer. Spiritual health can be defined as a sense-making relationship with others, perceiving the meaning and goals, and connecting to a superior power that helps individuals

live better and interact more effectively with their world. Spiritual health appears when individuals strengthen their spiritual powers voluntarily through prayer, peace, and relationship with like-minded individuals, and learn from a spiritual guide and study [5]. Spiritual health consists of two dimensions religious health and existential health. Religious health represents the relationship with God and eternal power, while existential health expresses our relationship with others, the environment, and ourselves, which can be defined as the ability to integrate various aspects of human existence [6]. Experience of living with cancer indicates that spiritual health is an important and outstanding aspect of a healthy life, and studies have shown that spirituality and religious beliefs play a significant role in adaptation to cancer disease leading to a purposeful and meaningful life for patients with cancer. Those patients whose spiritual health is strengthened can adapt to their disease and even spend good days in the last stages [5 & 7]. Because psychological problems of patients with cancer are more than other patients, these issues may affect their quality of life, religious beliefs, suicide attempts, longer hospitalization, longevity, and life expectancy [7].

Hope is another variable that plays a crucial role in stressful life incidents. As a factor for life richness, hope enables individuals to see themselves with an outlook beyond their current status. Some problems may cause problems for cancer patients and their families during the treatment process: becoming hopeless in life, changing their relationships with others, and losing their beliefs [8]. Cancer makes the physical and mental abilities problematic and results in less self-confidence and hope in the person. Since patients cannot show their previous performances during their physical diseases and face many limitations, they will experience anxiety, anger, and depression facing psychological crises and stress [9]. Hope is among important indicators that not only are influenced by various factors but also indicate the cultural, social, economic, and health status of societies [10].

Hope is a healing, dynamic, and powerful factor that plays a role in dealing with and adapting to stressful events. Hope helps individuals to see themselves beyond the current situation [11]. Individuals with high hopefulness are more able to implement adaptability strategies and cope with crises rather than those who are hopeless. Hopeful patients can conceptualize the objectives clearly and have more self-confidence and capability for effective management of stressors. They know that a certain plan is required for each stress [12].

Resilience is one of the most significant human abilities that results in effective adaptation to stressful factors and changes. It is also a factor that helps to resist problems and allows the patient to successfully adapt to the threatening conditions. Cancer causes many challenges for patients, and resilience is an important factor that helps them adapt to the cancer. Moreover, biological, individual, and social factors affect the resilience among patients with cancer [13]. Resilience enables individuals to deal with problems perfectly. It also results in longer life and higher hope in life of patients, so is a vital tool for fighting against disappointment. Cancer patients show higher resilience levels and more adaptive coping strategies and have higher quality of life. Resilient people feel less disappointment and loneliness and endure problems more strongly. Resilience use in treatments makes individuals more active participants who can create their surrounding environment, which leads to biological, psychological, and spiritual balance under hazardous conditions [14 & 15].

There is an increasing number of cancer outbreaks and their negative effects on the resilience of cancer patients, as well as research gaps in this field and the focus of many studies on the negative implications of cancer. Furthermore, medical interventions have not been successful for incurable patients and could not solve their problems. Hence, this study aims to determine the relationship between spiritual health and hope with the resilience of patients with cancer referred to Tohid Hospital in Sanandaj, in 2022.

MATERIALS AND METHODS

The extant descriptive-correlational study was conducted from December to March 2022 in the Oncology Ward of Tohid Hospital in Sanandaj; 250 cancer patients who had inclusion criteria were chosen based on the convenient sampling method. The sample size was calculated based on the study conducted by Kavak et al. (2021) [16] and following formula by considering the correlation rate of 0.2 between dependent variable (resilience) and independent variables (spiritual health and hope), so a sample size of 194 was estimated that 250 patients were studied based on the convenient sampling method by measuring sample drops.

$n=+(\frac{1/96+0/84}{0/2})^2 +3=(\frac{2/8}{0/2})^2=196+3=199 \sim 250$

$Z_{1-\alpha/2}=1/96$

$Z_{1-\beta}=0/84$

$R=0/2$

Inclusion criteria comprised an age range of 18-75, definite diagnosis of cancer by a doctor, lack of no other chronic disease except for cancer, lack of diagnosed psychological problems based on the profile of the patient within the past six months, and informed consent for participation in the study. Exclusion criteria consisted of incomplete questionnaires filled out by patients.

The demographic information questionnaire, the Conner and Davidson resilience scale (2003), the Paloutzian and Ellison spiritual well-being scale (1983), and Snyder et al.'s Hope questionnaire (1991) were used in this study to collect data. The resilience questionnaire was designed by Connor and Davidson (2003) to measure the ability to cope with stress and threats. This questionnaire comprises 25 items that are scored on a Likert scale between zero (completely

incorrect) and five (always correct) [41]; therefore, the scores of tests vary between 0 and 100. Higher scores represent the higher resilience of respondents. This test includes five factors: personal competence, trust in one's instincts, tolerance of negative affect, positive acceptance of change and secure relationships, control, and spiritual influences. Connor and Davidson have reported Cronbach's alpha coefficient of 0.89 for the resilience scale in terms of psychometric characteristics and external reliability. Mohammadi (2005) has normalized this scale for individuals exposed to drug abuse risk in Iran and confirmed the validity and reliability of this tool that its Cronbach's alpha equaled 0.89 [17]. In this study, Cronbach's alpha was used to examine the reliability of the resilience questionnaire and equaled 0.81 indicating the proper reliability of the tool.

The spiritual well-being scale was designed by Paloutzian and Ellison (1983). This questionnaire consists of 20 items, and its responses are based on the six-point Likert scale (from strongly agree to strongly disagree). This scale is divided into two factors religious well-being and existential well-being, and each factor comprises ten items that take a score of ten. The total score of spiritual well-being is the sum of scores obtained by these two subscales that vary between 20 and 120. The sum of acquired scores can be classified as low spiritual well-being (20-40), average spiritual well-being (41-99), and high spiritual well-being (100-120). Syed Fatemi et al. (2006) determined the validity of spiritual health through content validity. Reliability of this scale was confirmed based on the Cronbach's alpha coefficient of 0.82 [18]. In the extant study, Cronbach's alpha for the reliability of the spiritual health questionnaire equaled 0.81, indicating the appropriate reliability of the tool.

A hope scale that contains 12 items was designed by Snyder et al. (1991) for individuals older than 15 [19]. Among these items, four items measure agency thinking, four items measure pathway thinking, and four items are fillers. The scoring process is done based on the sentences written in front of each aspect that represents a behavioral sign (strongly disagree=1, disagree=2, indifferent=3, agree=4, strongly agree=5). Each person obtains a score based on the sentence they select regarding their behaviors. Score values of each aspect vary between one and five. In the Snyder test, the range of scores is 12-60. Snyder et al. used Cronbach's alpha coefficient for the reliability of the questionnaire, and its reliability was confirmed. Alexander and Anne Gbozzi (2007) reported a reliability coefficient of 0.74 for this questionnaire. The validity and reliability of the questionnaire were obtained based on a quasi-experimental study on women with breast cancer in the study conducted by Kashani et al. (2014). Many studies have supported the validity and reliability of this questionnaire as a hope measurement scale. The reliability of the whole test varies between 0.74 and 0.84, and test validity equals 0.80, which was higher during periods longer than 8-10 weeks [20]. In this study, Cronbach's alpha was measured to examine the reliability of the hope questionnaire, which equaled 0.78 indicating suitable reliability of the tool.

After ensuring data non-normality based on the Kolmogorov-Smirnov and Shapiro-Wilk tests, Mann Whitney U statistical analysis was used for analyzing data, answering the questions, testing hypotheses, and comparing the mean values of resilience, spiritual health, and hope components of patients with cancer considering the gender, living place, cancer background in the family, having emotional support of others, and relationship with the God for spiritual activities. Comparison analysis between mean values of resilience, spiritual health, and hope components was done regarding the age, marital status, education level, job status, family income, insurance coverage, cancer duration, and cancer type based on the nonparametric Kruskal-Wallis test. Also, the relationship between spiritual health and its dimensions (religious health or well-being and existential health) and between hope and resilience was analyzed through the Spearman Correlation test. Multiple regression was used to examine and predict the dependent variable of resilience based on the independent variables of hope and spiritual health. The significance level equaled 0.05. Data analysis was done through Stata16 Software.

This study is derived from a research project approved under the ethics code of IR.MUK.REC.1401.236 in Medical Science University of Kurdistan. The consent letter was signed by the patients at the first step, and then they were ensured confidentiality. The researchers also adhered to the terms of the Helsinki Declaration and Committee on Publication Ethics (COPE), which were ethical considerations in this study. In the study, the questionnaires were distributed among participants to fill out after giving sufficient explanations about answering the questions. The researcher read the questions and options of the questionnaires for illiterate patients and marked their answers. The researcher was present until the end of the questionnaire completion process to answer any questions and remove any ambiguity.

FINDINGS

According to the results, most subjects were men (57.2%) older than 60 years old (37.2%), married (86.4%), illiterate (55.6%), unemployed and housekeeper (36%) with 1-2 million toman income per month, living in the city (70.4%), having social insurance (37.6%) and health insurance (37.6%), with no cancer background in the family (68%), cancer duration (45.6%), suffering from gastrointestinal cancer (31.2%), emotional support of others (91.6%), and doing spiritual and religious affairs (97.6%) (Table 1).

Table 1. Distribution of frequency of demographic characteristics of studied patients

Row	Variable	Classification	N	%
1	Gender	Man	143	57.2
		Female	107	42.8
2	Age	<30	13	5.2
		30-40	38	15.2
		41-50	55	22
		51-60	51	20.4
		>60	93	37.2
3	Marital status	Single	21	8.4
		Married	216	86.4
		Divorced	6	2.4
		Widow	7	2.8
4	Education level	Illiterate	139	55.6
		Elementary school	42	16.8
		Secondary school	18	7.2
		Diploma	34	13.6
		Academic level	17	6.8
5	Marital status	Unemployed	90	36
		Employed	38	15.2
		Housekeeper	90	36
		Employee	8	3.2
		Retired	24	9.6
6	Monthly income (million toman)	<1	11	4.4
		1-2	130	52
		2-4	76	30.4
		>4	33	13.2
7	Living place	City	176	70.4
		Village	74	29.6
8	Insurance coverage	Social security	94	37.6
		Health insurance	94	37.6
		Army forces	8	3.2
		Other insurances	19	7.6
		Lack of insurance	35	14
9	Type of cancer	Blood and lymph cancer	61	24.4
		Gastrointestinal cancer	78	31.2
		Breast cancer	39	15.6
		Other cancers	72	28.8
10	Cancer duration (year)	<1	17	6.8
		1-2	114	45.6
		2-4	99	39.6
		>4	20	8
11	Cancer background in the family	Yes	80	32
		No	170	68
12	Lack of emotional support from others	Yes	229	91.6
		No	21	8.4
13	Doing spiritual and religious affairs	Yes	244	97.6
		No	6	2.4

In this study, the mean value and standard deviation of spiritual health, religious health, and existential health equaled 4.53±0.51, 5.20±0.59, and 3.87±0.63, respectively. The dimension of religious health with a value of 5.20 was significantly higher than existential health with a value of 3.87, which showed higher religious health of respondents than their existential health. The mean value and standard deviation of hope equaled 3.73±0.36 among respondents. The mean value and standard deviation (SD) of resilience equaled 2.60±0.62 among respondents (Table 2).

Table 2. Mean value and SD of resilience, spiritual health and its dimensions, and hope among studied cancer patients

Row	Questionnaire (scale)	Dimensions	Mean value	SD
1	Resilience (0-4)	Resilience	2.60	0.62
2	Spiritual health (0-6)	Religious health	5.20	0.59
		Existential health	6.87	0.63
		Spiritual health	4.53	0.51
3	Hope (0-5)	Hope	3.73	0.36

The relationship between spiritual health and its dimensions (religious health and existential health) and hope with resilience were done using the Spearman Correlation Test among cancer patients. The results showed a significant relationship and correlation between spiritual health and its dimensions (religious health and existential health) with resilience (r=0.549, P=0.001). An increase in spiritual health and its dimensions (religious health and existential health) leads to a significant and considerable rise in the resilience of cancer patients. In addition, an increase in hope leads to a significant increase in resilience (r=0.340 & P=0.001) (Table 3).

Table 3. Analysis of the relationship between spiritual health and its dimensions and hope with resilience among cancer patients in Tohid Hospital of Sanandaj

Variable	Religious health		Existential health		Spiritual health		Hope	
	Correlation coefficient	P-value	Correlation coefficient	P-value	Correlation coefficient	P-value	Correlation coefficient	P-value
Resilience	0.353	0.001	0.543	0.001	0.549	0.001	0.340	0.001

To examine and analyze the relationship between spiritual health and its dimensions (religious health and existential health) and hope with the resilience of cancer patients, joint multiple regression was done and all variables were inserted into the model. According to the results of Table 4, the R^2 value indicates that 50% of variations in resilience are explained by these variables. Also, an F-value of 48.222 and a significance level of 0.001 indicate the linear relationships between spiritual health and its dimensions and hope with resilience (Table 4).

Table 4. Statistics related to regression model of spiritual health and hope with resilience variables

R^2	F-value	Sig.
0.50	48.222	0.001

According to the predicted results of regression analysis on the inserted independent variables (spiritual health and hope) with the dependent variable (resilience), spiritual health is among the variables excluded from regression computations. There is a significant relationship between existential health (P=0.001) and with resilience of patients in the implemented regression, but the effects of the religious health dimension (P=0.104) and hope (P=0.693) are not significant, so they do not have any effect on predicting dependent variable (resilience) (Table 5).

Table 5. Results of regression analysis on spiritual health dimensions and hope with resilience variable

Variable	Coefficient	Standard error	β	P-value
Constant	-0.124	0.397	-	0.755
Religious health	0.087	0.053	0.083	0.104
Existential health	0.234	0.059	0.237	0.001
Hope	-0.074	0.187	-0.044	0.693

DISCUSSION AND CONCLUSION

This study was conducted to determine the relationship between spiritual health and hope with resilience among cancer patients. The results of data analysis on the relationship between spiritual health and resilience indicated a significant relationship and correlation between spiritual health and its dimensions (religious health and existential health) with resilience, so an increase in spiritual health and its dimensions (religious health and existential health) leads to a significant and dramatic rise in the resilience of cancer patients. Spiritual health is a component that matches various physical, mental, and social dimensions and is needed for adaptation to problems. This component can help patients with chronic diseases, including cancer to tolerate the chronic mental and physical process of disease in these patients. In most reviewed studies, the results are in line with the results of this study. Sanderson concluded that religious commitment and spirituality make individuals rely on adaptive mechanisms and have higher resilience. In another study conducted by Bower et al. (2003), they found that women with breast cancer who had higher spiritual perception and received a higher rate of meaning showed more resistance against cancer [21]. Tavanaie et al. (2020) carried out a study to determine the relationship between resilience and spiritual health in the caregivers of patients with end-stage cancer and concluded that the resilience of caregivers of patients with end-stage cancer can be predicted based on their spiritual health. They also found a significant relationship between spiritual health and resilience, so spiritual health could anticipate resilience. Spiritual health indeed helps to predict the decline or rise in resilience [22].

In another study, Darmian and Javadi (2022) studied the role of spiritual health and resilience in psychological vulnerability during the Pandemic COVID-19. According to their results, there was a statistically significant relationship between the psychological vulnerability rate of individuals and their spiritual health, so that increase in resilience and spiritual health could decrease the psychological vulnerability [23]. In the study carried out by Ebrahimi et al. (2020) to determine the relationship between spiritual health and resilience in hemodialysis patients, a significant and direct relationship was found between spiritual health and resilience [24]. It seems that individuals with high spiritual health focus on more aspects of the problem and are more adaptive when they face problems. They only concentrate on certain aspects of the problem, while individuals with low meaningfulness levels have a negative view of problems and may show lower adaptability. Therefore, an increase in spiritual health rate in life not only helps a person to overcome inculpabilities but also improves personal satisfaction with life. Inconsistent with the findings of this study, Reguera-García et al. (2020) conducted a study to find the relationship between physical activity, resilience, sense of coherence, and coping in people with multiple sclerosis in the situation derived from COVID-19. The results indicated a significant correlation between resilience and religious health which is one of the dimensions of spiritual health [25].

Also, data analysis on the relationship between hope and resilience indicated a significant correlation relationship between hope and resilience, so an increase in hope leads to a significant increase in the resilience of patients with cancer. Individuals who have high resilience in their lives have a positive approach to life and a high hope rate. Hope for having a better life would improve and promote adaptability in the person and hopeful individuals have stronger drivers and more energy to progress their goals, which leads to more motivation for active participation in problem-solving processes, adaptability, and flexibility that is resilience. It is expected that individuals with high resilience and suitable emotional regulations experience higher hope under cancer conditions. In

recent years, psychologists have considered hope as a psychological strength that increases resilience and is effective in fostering and creating mental health. It seems that patients with high resilience have higher hopes. When resilience is positive and effective in a person, it can predict an individual's hope. In other words, it can be stated high resilience and positive effects can improve hope in the life of a person.

The findings obtained by Mohammadzadeh and Jahandari (2010) [26], Karimian Abdar and Karimi Afshar (2022) [27], and Solano et al. (2016) [28] were matched with the results of the relationship between hope and resilience in cancer patients. Mohammadzadeh and Jahandari (2019) carried out a study to determine the relationship of resilience and emotional regulation with hope among soldiers. Their results showed that resilience could predict the hope of soldiers [26]. Karimian Abdar and Karimi Afshar (2022) conducted a study to find the relationship between resilience quality of life and hope of the mothers of deaf children. They found a statistically significant relationship between resilience and hope of the mothers of deaf children [27]. It can be explained that resilience is more proper for difficult and adverse circumstances, so this ability can increase individuals' tolerance for social, emotional, and physical problems. High resilience of individuals helps them to control their feelings and be successful in adapting to negative experiences in life. Individuals with higher resilience experience fewer interpersonal problems compared to those with lower resilience. Solano et al. (2016) found a relationship between resilience and hope among metastatic colorectal cancer patients so that patients with less resilience had lower hope and were more exposed to high levels of pain [28]. Salehi Doust et al. (2013) carried out another study in this field and found a statistically significant and direct relationship between the hope and resilience of students [29].

The results of the present study indicated a statistically significant relationship between spiritual health and hope with resilience. Accordingly, strengthened spiritual health and promoted hope would increase the resilience of patients with cancer. The results of this study can boost our knowledge in psychological, preventive, and treatment fields for chronic diseases and coping methods. Furthermore, the study in this case can improve life of patients and increase their quality of life so can be used in addition to other treatments. It is recommended to consider spiritual health as one of the important health factors among cancer patients to increase their resilience and accelerate their recovery process. Nurses not only improve the physical health of patients but also play a role in making the psychological, mental, and spiritual conditions of cancer patients better, nurses can improve the quality of life of cancer patients and play a vital role in the treatment process by making strong relationship, providing psychological and mental support, making patients aware of the relationship between spiritual health and hope to improve their resilience and adaptability to hard circumstances of the disease they suffer from, and providing proper cares. One of the limitations of this study was the use of a questionnaire as the only tool for data collection that was self-reported. Due to fatigue, boredom, and pain caused by the disease and insufficient concentration of patients when answering questions because of chemotherapy drugs, it was tried to distribute questionnaires to be filled out by patients when they were resting and willing to fill out the questionnaires at evenings.

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