

The Role of Daily Spiritual Experiences in Hope and Posttraumatic Growth in Patients with Leukemia

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Abstract

Background and Objectives: The increased incidence of leukemia is one of the problems facing modern medicine. People with a diagnosis of cancer need to remain hopeful during the process of treatment and diagnosis of cancer sometimes leads to posttraumatic growth. The aim of this study was to investigate the role of daily spiritual experiences in the hope and posttraumatic growth among patients with leukemia.

Methods: To conduct this descriptive-correlational study, 70 patients with leukemia in Zahedan were selected by convenience sampling in 2015. The instruments used in this study were the Daily Spiritual Experiences Scale (DSES), the Hope Scale, and the Posttraumatic Growth Inventory. To analyze the relationship between variables and predict changes in hope and posttraumatic growth, correlation and stepwise regression analysis were used.

Results: Total score on the DSES and scores on its three subscales were directly and significantly correlated with hope and posttraumatic growth, and only the total score on the DSES could predict hope. The total score on the DSES and the subscale feeling of responsibility for others could predict posttraumatic growth.

Conclusion: From the results, it can be deduced that daily spiritual experiences are effective on the hope and posttraumatic growth in patients with leukemia.

Keywords: Leukemia, Daily Spiritual Experiences, Hope, Posttraumatic Growth.

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Introduction

Cancer is one of the major health issues worldwide, and many people die each year from a variety of cancers (1). Among all types of cancers, leukemia is one of the 10 most commonly occurring cancers affecting all races in the United States (2). Chen et al found that among the 10 leading cancers in the world between 2000 and 2011, the incidence of six types increased, one of which was leukemia (3). Detection of leukemia can be a very stressful experience for most patients (4). In Iran, skin cancer is the most common cancer with a prevalence of 13.08%, and leukemia is the sixth leading cancer with a prevalence of 5.76% (5). Detection of cancer and its treatment can have profound adverse physical, psychological, and social consequences for the patients and play a decisive role in their quality of life (6). Although cancer diagnosis and treatment is a

very stressful and traumatic experience and leads to adverse psychological impacts, extensive research has shown that cancer experience can also stimulate positive psychological changes such as posttraumatic growth (7). In fact, posttraumatic growth is defined as the experience of positive psychological change as a result of the struggle with major crises and very stressful events in life (8,9). The changes and consequences of posttraumatic growth occur in three areas, interpersonal relationships, changes in individual views of oneself, and changes in the philosophy of life.

Hope is one of the most influential factors in effective coping with the events that cause tension. Snyder & Peterson have defined hopefulness as a construct that consists of two concepts, the ability to design passages to desirable goals in spite of existing barriers and

agents or motivating factors to be used in these passages (10). The feeling of frustration or lack of control has a profound adverse effect on the psychological states of the individual, while the person who hopes to be able to master his/her life is capable of controlling stress and negative emotions and perceives living conditions as changeable (11).

Hope has a significant, direct correlation with posttraumatic growth (12). The research on hopefulness has mainly addressed cancer patients, because this disease is a life-threatening factor for life expectancy. Khodapanahi et al and Reb, argued that when a malignant life-threatening illness is diagnosed, people perceive certain changes in their lives and make effort to adapt (13,14).

In recent years, research has placed much emphasis on the key role of spiritual experiences in promoting mental and physical health (15,16). Spiritual experience includes the values and beliefs of individuals about themselves and the world as well as the protection of their mental health and the people around them (17). Spiritual experiences as a personal experience contribute to helping others, loving, and achieving life satisfaction, and by giving hope for life and making it meaningful, and encouraging people to be patient in facing problems, create positive attitudes and interpretations, which also increases adaptive behaviors and improves life (18).

Regarding illness, spirituality has the ability to influence well-being in three ways: 1. Providing hope, meaning, and purpose in life, death, and suffering; 2. developing strong relationships with others and with the Lord; and 3. providing positive coping strategies as alternatives to the feeling of loss and fear (19). Yanez et al and Koenig have also shown that religion and spirituality have a significant, direct effect on the psychological health of cancer patients (20,21). Some studies have concluded that there is a significant relationship between spiritual experiences and hope (22-24). Therefore, in view of the increased prevalence of leukemia in Iran and the world, and the lack of research on the psychological factors affecting it, especially in

Iran, the present study examines the role of daily spiritual experiences in hope and posttraumatic growth in patients with leukemia.

Methods

The present study is a descriptive-correlational study. The study population consisted of 89 patients with leukemia referring to Imam Ali Hospital in Zahedan from November to December in 2015 that according to Morgan Table, 70 people were selected by convenience sampling. Inclusion criteria were definite diagnosis of cancer, the similarity of received treatment, the lack of a history of neuropsychological and psychological disorders, the lack of psychotherapy, the lack of substance abuse history, and age of at least 18 years. These criteria were investigated by the information recorded in the medical records of patients in the hospital and questioning the therapist and patients themselves. Exclusion criteria were lack of the above criteria and unwillingness to cooperate.

Data collection was performed using the Daily Spiritual Experience Scale (DSES), the Hope Scale, and the Posttraumatic Growth Inventory (PTGI).

To assess daily spiritual experiences, the Daily Spiritual Experience Scale (DSES), developed by Underwood et al., was used. This 16-item scale measures spiritual experiences throughout the daily life rather than specific beliefs and behaviors. The items of the DSES are rated on a 6-point Likert scale (from Often=6 to Never or Almost never=1). But the item no. 16, which is a general question, has a different set of choices that are: At all, To some extent near, Very close, and Close as much as possible. Since this item has 4 choices, if its score is going to be added to other items that have 6 choices, it is suggested that the scoring interval be increased to 1.5 [from at all=1.5 to Close as much as possible=6]. Three factors were identified for this questionnaire: The first factor: The feeling of God's presence; the second factor: The relationship with God; and the third factor: The feeling of responsibility for others. Underwood

et al. investigated the internal consistency of the DSES using Cronbach's alpha, which was derived 0.94 and 0.95 in two administrations (25). Greyson et al. reported Cronbach's alpha coefficient of 0.95 for the DSES in their research. In another study, Cronbach's alpha was derived 0.88 for this scale (26). To investigate the reliability of the DSES, in this study, the Cronbach's alpha coefficient (which is an indicator of the internal coordination between the various items of an instrument) was determined 0.76.

To evaluate hope, the Hope Scale, developed by Snyder et al., was used. This 12-item scale was designed for the people aged 15 years and older, and consists of two subscales, i.e., the passage and the operating force. To answer each item, a 4-point Likert scale is used. Questions 3, 5, 7, and 11 are not scored and are related to distractions. Questions 1, 4, 6, and 8 are related to the passage subscale and questions 2, 9, 10, 12 to the operating force subscale. The total score can range from 8 to 32. The calculated reliability by the Cronbach's alpha was 0.82 for the operating force subscale and 0.84 for the passage subscale, with the total Cronbach's alpha coefficient of 0.86 (10). In a research in Iran, the internal consistency coefficient of the whole scale was obtained 0.76 by Cronbach's alpha. The coefficient of internal consistency was 0.71 for the passage (paths to achieve the desired goals) subscale and 0.68 for the operating force (ability to understand the goals through the paths) subscale (13, 14). Cronbach's alpha (which is an indicator of the reliability and internal consistency of the instrument) in this study was derived 0.70.

to evaluate the changes in individuals' self-perception related to the experiences of traumatic accidents, the Posttraumatic Growth Inventory (PTGI), developed by Calhoun et al., was used. The theoretical fundamentals of this inventory are based on the study of individuals' reports on positive outcomes (such as their perception and philosophy of life) resulting from traumatic experiences such as cancer. This inventory consists of 21 items rated on a five-point Likert scale. Cronbach's alpha coefficient for the overall score was

reported to be approximately 0.91 (27). Cronbach's alpha coefficient of the PTGI in a study in Iran was obtained 0.98 (28). The Cronbach's alpha coefficient for this inventory was 0.85.

In order to observe ethical considerations, the researcher obtained informed consent from the patients after introducing himself and explaining the goals and protocol of the study to them. The participants were assured that their information would be kept confidential; before providing the questionnaires, the research information was clearly explained to them and the researcher informed the participants that they could withdraw from the study whenever they wished. In addition to obtaining the participants' consent to participate in the study, we held a briefing session for each participant separately.

Result

In this study, both men and women participated. The age of the patients was between 18 and 81 years, with an average age of 43.17 years. Regarding education, 20% had elementary education, 27.1% had high school diploma, and 27.1% had higher than high school diploma.

The Pearson correlation coefficient was used to determine the relationship of the variables of daily spiritual experiences and their subscales (feeling of God's presence, relationship with God, and feeling of responsibility for others) with hope and posttraumatic growth in patients with leukemia. Based on the results, the spiritual experiences of everyday life and its subscales, feeling of God's presence, relationship with God, and feeling of responsibility for others, were significantly and directly correlated with hope (Table 1).

Stepwise regression analysis was used to investigate the role of daily spiritual experiences and its subscales in predicting hope and posttraumatic growth. The results showed that only the total score of daily spiritual experiences could explain 20.3% of the variance in the hope variable. Other subscales of daily spiritual experiences, such as the criteria for inclusion in the equation, were not removed from the regression equation.

Therefore, daily spiritual experiences had a direct, significant correlation with hope ($P < 0.001$, $\beta = 0.45$) and was a positive predictor of this variable.

Table 1: Correlation coefficients of daily spiritual experiences and its subscales with hope and posttraumatic growth

Spiritual experiences	Subscales	Statistic	hope	posttraumatic growth
	feeling of God's presence	r	0.39	0.44
		Sig	0.001	0.001
	relationship with God	r	0.26	0.38
		Sig	0.016	0.001
	Feeling responsible for others	r	0.31	0.52
		Sig	0.004	0.001
	The overall score of daily spiritual experiences	r	0.45	0.58
		Sig	0.001	0.001

In addition, to investigate the role of daily spiritual experiences and its subscales in predicting the posttraumatic growth variable, stepwise regression analysis showed that daily spiritual experiences could explain 33.8% of the variance in posttraumatic growth and its subscale, the feeling of responsibility for others, could explain 4.6% variance in this variable. Other subscales of daily spiritual experiences, such as the criteria for inclusion in the equation, were not removed from the regression equation. Therefore, daily spiritual experiences ($P < 0.001$, $\beta = 0.42$) and feeling of responsibility for others ($P < 0.029$, $\beta = 0.27$) had a direct, significant correlation with posttraumatic growth and therefore were positive predictors of this variable.

Discussion

The purpose of this study was to investigate the relationship of daily spiritual experiences and its subscales with hope and posttraumatic growth in people with leukemia. The results of this study showed that daily spiritual experiences and its subscales were directly and significantly correlated with hope and posttraumatic growth in people with leukemia; that is, the high levels of daily spiritual experiences were associated with high levels of hope and posttraumatic growth, and the results of regression showed that only the total score of daily spiritual experiences significantly predicted hope. The results of studies have

shown that daily spiritual experiences and quality of life are important in predicting hope (13). Lark concluded that there was a significant relationship between the scores on the Hope Scale and spiritual well-being in cancer patients (29). In another study, it was shown that religion and spirituality could provide coping means, power resources, healing, and hope, and help people perceive their cancer experiences (30).

Regarding the role of daily spiritual experiences in predicting hope, a research showed that hope and spiritual beliefs led to well-being and satisfaction with and increased adaptability to the factors related to life-threatening and stressful diseases, and it can be argued that spirituality is a key component and facilitator for increasing hope (31). The findings of this study are consistent with some other studies (32, 33). In addition, when a malignant life-threatening illness (such as cancer) is diagnosed, the patients perceive changes in their lives and make effort to adapt. Hope has a therapeutic role and reduction in hope puts patients at the risk of lack of adaptation to diagnosis and treatment (34).

In explaining this finding, cancer patients who are aware of their imminent death often develop depression as a result of denial and anger. Depression causes certain feelings and emotions including feelings of loss, failure, despair and disappointment, helplessness, meaninglessness, and emptiness. These conditions intensify the psychological and physical symptoms of the disease. Because there is a spiritual aspect in every human being, those who have spiritual experiences consider these experiences as a sedition and relaxing factor, which causes them to see the difficulties of life from an optimistic perspective (35). Patients who have more spiritual experiences in their daily lives use them as incentives that lead them to a certain goal and hopefully feel that God will help and guide them in their everyday activities, feel more in-depth inner peace, and as it was said, one of the components of hope is purposeful thinking. Among cancer patients, such goal can be greater resistance at treatment phases, life satisfaction, higher resilience (36), coping with

cancer (37), and even posttraumatic growth (38), or reaching things that are important to them in life.

Therefore, considering that one of the interventions is patient mental support, disappointment is one of the common general problems of cancer patients that leads to decline in living functions, loss of job, and communication disorders, patients who use spiritual experiences, faith, and belief in guidance from God as a factor for adapting to their illness can better hopefully cope with the adverse effects of this stressful event. The results of regression also showed that daily spiritual experiences and a feeling of responsibility for others could predict posttraumatic growth. Reviewing literature, we found no research that has directly achieved these results, but in researches, the relationship of spirituality with posttraumatic growth and the role of spirituality in this variable have been examined (39-41), which is consistent with a part of the results of our study.

In another study, it was found that the average posttraumatic growth scores in patients with leukemia were significantly higher than the average scores of patients with other types of cancers (42), and as Zeinter et al. have suggested, when facing emotional pressures, severe illnesses, and death, one feels that spirituality in life is important for him/her (43), because the religion and spiritual experiences have three major functions, i.e., the creation of a framework for making trauma meaningful, the provision of resources, and the creation of hope for affected people (44). Therefore, it can be concluded that the existence of daily spiritual experiences and the relationship with the Creator of the world among people with leukemia, and the belief that they are close to God in their daily lives and feel the presence and guidance of the Lord, and that they have a better understanding of spiritual issues and are responsible for themselves and others, altogether cause them to feel more compassionate toward others and more self-confident, to appreciate every of their days of living, to be able to do better things in there and others' lives in the created opportunities, to develop their own interests, to improve their

relationships with others, and to have more power to manage problems.

The strategies with strong religious roots are active methods that help patients find God as a reliable and endless source.

Spirituality increases the awakening and attention to the unknown dimensions of life and makes one refine his/her thoughts, focus on the problem, and decide on it. In the study of Morris et al. on cancer patients, it was found that there was the highest posttraumatic growth in the dimensions appreciating life and communicating with others (45). In the present study, the subscale feeling of responsibility for others was a predictor of posttraumatic growth, which is consistent with the study of Calhoun and Tedeschi. The relationship and interaction with others, especially in those close to each other, have a significant effect on posttraumatic growth (46). A review of many studies has shown that spirituality, beliefs, and religious practices have a very significant role in improving diseases and mental and physical problems. Participating in religious ceremonies and prayers, actively participating in religious centers, etc., have many benefits to mental health of individuals, especially at crises and for affected people. In fact, it can be argued that the existence of a proper relationship with God and the belief that God is present in one's daily activities and supports him/her, creates a pleasant feeling in him/her that leads to an appropriate and better interaction with surrounding people and appropriate exposure to the traumatic event and the growth following it.

One of the limitations of this study was the small number of samples and the lack of cooperation of some patients due to their critical disease and inappropriate physical and mental conditions as well as low literacy and illiteracy, resolved by reading and completing the items by the researcher. It is suggested that this research be replicated in other cities for the generalizability of the results, and to investigate the role of certain confounders such as economic status, marital status, gender, and educational level of cancer patients. Spiritual-religious training is recommended to be conducted by professionals and authorities to

increase psychosocial well-being and also hope and posttraumatic growth, as the increase of spiritual experiences along with medical treatments in cancer patients can bring a large number of people back to society and make them hopeful to continue living.

Conclusion

It can be argued that when a person suffers from cancer, in addition to being disturbed in his or her personal life, he/she also causes a lot of changes in the lives of his or her relatives, many of his/her responsibilities are entrusted to other family members. It also transfers some of the burden of sickness to family members, while patients with spiritual experiences in their daily lives, through this same help, feel the Lord's love for themselves and better accept others' assistance, feel more compassionate toward others, and to appreciate others, try to change their conditions because they have realized that they can rely on them in hard times.

Conflict of interest

The author declares no conflict of interest.

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