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**Journal of Religion and Health**

ISSN 0022-4197

J Relig Health

DOI 10.1007/s10943-014-9872-9



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## Spiritual Well-Being for Increasing Life Expectancy in Palliative Radiotherapy Patients: A Questionnaire-Based Study

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**Abstract** Spiritual well-being in patients with an advanced cancer has been found to positively correlate with subjective well-being, lower pain levels, hope and positive mood states, high self-esteem, social competence, purpose in life, and overall quality of life. In this regard, Quran recitation is stated to be an efficient way to increase patient spirituality and also to handle life's everyday challenges. The aim of this study was to investigate the effects of listening, reading, and watching the text of the Holy Quran, called (in this study) Quran recitation, for increasing life expectancy (LE) in palliative radiotherapy patients admitted to Radiotherapy Department of Seyed alshohada Hospital, Isfahan, Iran. A questionnaire-based study was carried out on a total of 89 palliative radiotherapy patients between March 2012 and June 2012. Informed consent was obtained. The patients were requested to complete a standardized questionnaire which was designed based on the European Organization for Research and Treatment of Cancer C30 Scale Quality of Life Questionnaire (EORTC C30 Scale QLQ). A computer program (SPSS version 16.0,

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Chicago, IL, USA) was used, and data were analyzed by the Wilcoxon test and Spearman's rank correlation. All hypotheses were tested using a criterion level of  $P = 0.05$ . There was a significant difference for frequency and duration of Quran recitation among patients, before and after the diagnosis of their cancer ( $P = 0.03$ ). Using the Spearman's rank correlation, it was found that there was a correlation between Quran recitation and subjective well-being ( $r = 0.352$ ,  $P < 0.001$ ). Moreover, there was a correlation between Quran recitation and increasing LE ( $r = 0.311$ ,  $P < 0.003$ ). More than 60 % of the patients stated that more frequent recitation would lead to more LE and/or greater reassurance. On the basis of the present work, listening, reading, and watching the text of the Holy Quran are useful for increasing LE in palliative radiotherapy patients admitted to Radiotherapy Department. In other words, a benefit of Quran recitation on outcome of radiotherapy for palliative radiotherapy patients was found.

**Keywords** Holy Quran recitation · Cancer · Radiotherapy · Palliative radiotherapy · Spiritual well-being · Life expectancy

## Introduction

According to WHO (World Health Organization), cancer is a leading cause of mortality and morbidity worldwide. The WHO estimated 7.6 million deaths due to cancer in the year 2005, and it is expected to rise to 12 million deaths by the year 2030 (WHO 2010).

Radiotherapy is the medical use of ionizing radiation as part of cancer treatment to control malignant cells (Shokrani et al. 2013). Radiotherapy may be used for curative or adjuvant cancer treatment. It is used as palliative treatment, where cure is not possible and the aim is for symptomatic relief or increasing life expectancy (LE) (Khan 2010).

Generally in palliative radiotherapy (PR) patients, cancer is considered an incurable disease that is related to magic, bad luck, or a punishment from God, and more or less the same scenario is observed in developing countries (Sheikh and Ogden 1998; Sandelin et al. 2002). Today, many of these patients believe that their spirituality helps promote healing, especially at an advanced stage cancer, when medications and other treatments cannot provide a cure for their conditions.

The importance of addressing spirituality in patient management is indicated in several studies (Hanin Hamjah and Mat Akhir 2014; Hassan 2014; Omu et al. 2014). Spiritual well-being in patients with an advanced cancer has been found to positively correlate with subjective well-being (Reed 1987; Yanez et al. 2009), lower pain levels (Yates et al. 1981; Borneman et al. 2010), hope and positive mood states (Mickley et al. 1992; Fehring et al. 1997), high self-esteem, social competence, purpose in life (Paloutzian and Ellison 1982), and overall quality of life (QOL) (Cotton et al. 1999; Unantenne et al. 2013).

Micozzi noted that “the blending of spirituality with the tenets of alternative, complementary, and integrative therapies provides individuals with a means of understanding how they contribute to the creation of their illness and their healing” (Micozzi 2006). Meanwhile, in some societies and among certain religious groups, prayer (i.e., Quran recitation) is believed to be the most important cancer therapy that can be offered to a patient, superseding even medical intervention.

Byrd published the results of a blinded, controlled trial of patients who had been admitted to a coronary care unit (CCU) at San Francisco General Hospital, San Francisco,

USA. They reported a statistically significant beneficial effect of intercessory prayer as assessed by a summary “hospital course” score (Byrd 1988). Harris et al. found that supplementary, remote, blinded, and intercessory prayer produced a measurable improvement in the medical outcomes of critically ill patients. Their results suggested that prayer may be an effective adjunct to standard medical care (Harris et al. 1999). In other studies involving patients with terminal cancer, low levels of spirituality have been found to correlate with negative mood states, such as tension, anxious preoccupation, depression, anger, cognitive avoidance (Kaczorowski 1989; Fehring et al. 1997; Cotton et al. 1999), as well as hopelessness and suicidal ideation (Chibnall et al. 2002; McClain et al. 2003) and the desire for a hastened death (Breitbart et al. 2000).

Moreover, Reynolds 2001 stated that “as the information age gives way to the intuition age, healthcare professionals will need to focus less on logical, linear, and mechanical thinking and more on creative, spiritual, and emotional thinking.” Larry Dossey discussed an integration of physical and spiritual interventions in healing, not a replacement of one by the other (Freeman 2004). Kligler and Lee noted that integrative medicine is renewing the soul of medicine by combining advances of science and technology in Western medical training with the whole person approach of traditional healing systems (Kligler and Lee 2004).

In this regard, Quran recitation is stated to be an efficient way to increase patient spirituality and also to handle life’s everyday challenges (Khan et al. 2010). Khan et al. (2010) proposed a new method to reduce the stress and tension of patients and also providing them mentally, spiritually, and physically relaxation by the recitation of the Holy Quran.

In the previous studies, a positive relationship between spiritual well-being and coping with cancer and self-management has been found. However, there is minimal information regarding the spirituality of patients of different cultures, such as Iranian Muslim patients. Moreover, there is still lack of evidence regarding measuring the spiritual well-being and assessing its association with QOL using a standard tool. Different cultural groups and religious affiliations may emphasize different aspects of their QOL and spiritual well-being. Assessing the local perspectives by international instruments will provide an opportunity for comparisons and developing the best interventions based on the needs of patient with advanced stage cancer.

The aim of this study was to investigate the effects of listening, reading, and watching the text of the Holy Quran for increasing LE in PR patients admitted to Radiotherapy Department of Seyed alshohada Hospital, Isfahan, Iran. In this work, listening, reading, and watching the text of the Holy Quran were considered as Quran recitation. On the other hand, this study aimed to investigate whether there is a correlation between Quran recitation and LE in PR patients. According to the best of our knowledge, there was no evidence for the same study with the methodology and analysis described here.

## Materials and Methods

The study was approved by the Radiotherapy and Oncology Department, School of Medicine, Isfahan University of Medical Sciences, Isfahan, Iran. A questionnaire-based study was carried out in Radiotherapy Department of Seyed alshohada Hospital, Isfahan, Iran. A total of 89 PR patients were enrolled between March 2012 and June 2012. The patients were requested to complete a standardized questionnaire which was designed based on the European Organization for Research and Treatment of Cancer C30 Scale

Quality of Life Questionnaire (EORTC C30 Scale QLQ). All of them were asked to participate in the study. Refusal rate to participate was very low (<1 %).

Informed consent was obtained from each patient by giving an information sheet prior to the interviews. Patients, who were unable to read or understand the informed consent, were given verbal information by the research assistant in the department.

The above-mentioned questionnaire was consisted of age, sex, and scientific degree of the subjects. All patients were divided into three age groups of  $\leq 50$ , 50–70, and  $\geq 70$  years. In addition, they were divided into three scientific degree groups of collegiate, diploma or less, and unlettered. Considering the EORTC C30 Scale QLQ, the questionnaire was composed of three main categories. First, the patients were asked about the frequency and duration of Quran recitation before and after the diagnosis of their cancer and during the treatment period. The level of Quran recitation was expressed by the study participants using a scale of: 0 = never, 1 = sometimes (monthly), 2 = often (weekly), and 3 = very often (daily). The second part of the questions was about their expectations of increasing LE and subjective well-being, following Quran recitation. Expectations and opinion on whether more frequent recitation would lead to more LE or greater reassurance was sought in the third part. In addition to the above-mentioned scale, for some of the questions answers were “Yes,” “No,” “Don’t know.” All data were collected based on self-administered questionnaire filled by the study participants. Then, the questionnaires were reviewed for information, and statistical analysis was performed using a computer program (SPSS version 16.0, Chicago, IL, USA). Data were analyzed by the Wilcoxon test and Spearman’s rank correlation. All hypotheses were tested using a criterion level of  $P = 0.05$ . Results were compared with the frequency of recitation of the study groups and their expectations and opinions for incidences of scientific degree, sex, and age.

## Results

A summary of the demographic and clinical characteristics of the patients is shown in Table 1. Using the Wilcoxon test, a significant difference for frequency and duration of Quran recitation among patients, before and after the diagnosis of their cancer was found ( $P = 0.03$ ). About 33.3 % of the patients mentioned that they recited Quran more, after the diagnosis of their cancer and also during the treatment period compared to before it. Table 2 shows the frequency of Quran recitation before and after the diagnosis of patient’s cancer.

Table 3 illustrates patient’s expectations of increasing LE and subjective well-being, following Quran recitation. About 55.1 % of the patients thought that radiotherapy increased their LE, while for Quran recitation, it was 61.1 %. Among the patients who recited Quran, 98.9 % of them believed that Quran recitation increased their LE, and 91.9 % of them stated that Quran recitation could help them to be well-being.

There was not a significant difference for frequency and duration of Quran recitation between males and females, before and after the diagnosis of their cancer and also during the treatment period ( $P = 0.05$ ). The same result was observed for expectation of increasing LE and subjective well-being, and also expectation on whether more frequent recitation would lead to more LE or greater reassurance.

There was not a significant difference for frequency and duration of Quran recitation among the different age groups ( $P = 0.05$ ). While patients in age group of  $\geq 70$  years believed that Quran recitation increased their LE and it helped them to subjective well-

**Table 1** Demographic and clinical characteristics of the patients

Characteristic	No. of patients (%)
Sex	
Male	38 (42.7)
Female	51 (57.3)
Age (years)	
≤50 years	
Male	11 (12.0)
Female	26 (28.9)
50–70 years	
Male	14 (15.6)
Female	23 (25.6)
≥70 years	
Male	13 (17.8)
Female	3 (0.1)
Scientific degree	
Collegiate	4 (4.4)
Diploma or less	70 (77.6)
Unlettered	16 (18)
Treatment period	
First week	66 (73.4)
First–fifth week	15 (16.5)
Fifth–tenth week	9 (11.1)

being ( $P = 0.043$ ). In this regard, there was not a significant difference between the other two groups ( $\leq 50$  years and 50–70 years groups).

It was found that for expectation of increasing LE and subjective well-being, a significant difference was existed for unlettered patients compared to the other two groups of collegiate and diploma or less ( $P = 0.043$ ).

Table 4 gives the patient's expectations and opinion on whether more frequent recitation would lead to more LE or greater reassurance. About 65.2 % of the patients stated that more frequent recitation would lead to more LE, and about 60 % of the patients confirmed that Quran recitation would lead to greater reassurance.

Using the Spearman's rank correlation, it was found that there was a correlation between Quran recitation and subjective well-being ( $r = 0.352$ ,  $P < 0.001$ ). Moreover, there was a correlation between Quran recitation and increasing LE ( $r = 0.311$ ,  $P < 0.003$ ).

## Discussion

Today, many patients believe that their spirituality helps promote healing, especially at an advanced stage cancer. In these patients, spiritual well-being has been found to positively correlate with subjective well-being (Reed 1987), hope and positive mood states (Mickley et al. 1992; Fehring et al. 1997), purpose in life (Paloutzian and Ellison 1982), and overall QOL (Cotton et al. 1999). For most of the patients at an advanced stage cancer, cancer is

**Table 2** The frequency of Quran recitation before and after the diagnosis of cancer

Subject group	No. of patients (%)				
	Before			After*	
	Never (%)	Sometimes (%)	Often (%)	Very often (%)	Very often (%)
<b>Sex</b>					
Male	3 (7.9)	15 (39.5)	12 (31.6)	8 (21.1)	12 (29.7)
Female	9 (18.4)	16 (32.7)	11 (22.4)	15 (26.5)	16 (31.0)
<b>Age (years)</b>					
≤50 years	4 (11.1)	15 (41.7)	9 (25)	9 (22.2)	13 (35.1)
50–70 years	6 (16.7)	8 (22.2)	12 (33.3)	11 (27.8)	9 (24.3)
≥70 years	3 (18.8)	8 (50)	2 (12.5)	3 (18.8)	6 (33.3)
<b>Scientific degree</b>					
Collegiate	0	3 (7.5)	1 (2.5)	0	0
Diploma or less	4 (6.0)	35 (50)	31 (43.8)	0	27 (37.5)
Unlettered	3 (17.9)	4 (28.4)	4 (22.4)	5 (31.3)	6 (29.4)

\* Significance difference ( $P < 0.05$ )

**Table 3** Patient's expectations of increasing life expectancy and subjective well-being, following Quran recitation

Subject group	No. of patients (%)		
	"Yes" answers (%) <sup>*</sup>	"No" answers (%)	"Don't know" answers (%)
<b>Sex</b>			
Male	21 (55.3)	1 (2.6)	16 (42.0)
Female	32 (64.7)	2 (3.9)	17 (31.4)
<b>Age (years)</b>			
≤50 years	28 (75.7)	1 (2.7)	8 (21.6)
50–70 years	17 (45.9)	2 (5.4)	18 (48.6)
≥70 years	10 (62.5)	0	6 (37.6)
<b>Scientific degree</b>			
Collegiate	1 (25.0)	0	3 (75.0)
Diploma or less	26 (37.5)	0	54 (62.5)
Unlettered	10 (68.1)	1 (4.3)	15 (26.0)

<sup>\*</sup> Significance difference ( $P < 0.05$ )

**Table 4** Patient's expectations and opinion on whether more frequent recitation would lead to greater life expectancy and greater reassurance

Subject group	No. of patients (%)		
	"Yes" answers (%) <sup>*</sup>	"Sometimes" answers (%)	"Don't know" answers (%)
<b>Sex</b>			
Male	31 (84.2)	7 (15.8)	0
Female	37 (72.5)	11 (21.6)	3 (5.9)
<b>Age (years)</b>			
≤50 years	32 (86.5)	4 (10.8)	1 (2.7)
50–70 years	25 (67.6)	10 (27.0)	2 (5.4)
≥70 years	13 (81.3)	3 (18.7)	0
<b>Scientific degree</b>			
Collegiate	1 (25.0)	2 (50.0)	1 (25.0)
Diploma or less	63 (75.0)	27 (25.0)	0
Unlettered	12 (81.2)	3 (15.9)	1 (2.9)

<sup>\*</sup> Significance difference ( $P < 0.05$ )

considered an incurable disease that is related to magic, bad luck, or a punishment from God (Sheikh and Ogden 1998; Sandelin et al. 2002).

In Islamic countries, patients recite Quran to increase their spirituality and consequently to handle life's everyday challenges (Khan et al. 2010). In Malaysia, using the recitation of the Holy Quran, Khan et al. (2010) proposed a method to reduce the stress and tension of patients and also providing them mentally, spiritually, and physically relaxation (Khan et al. 2010). Harris et al. (1999) found that prayer produced a measurable improvement in the medical outcomes of critically ill patients. McCoubrie and Davies performed a study on patients with advanced cancer, to establish whether there is a correlation between

spirituality and anxiety and depression in patients. They investigated a significant negative correlation between spirituality (in particular, the existential aspect) and anxiety and depression in patients with advanced cancer (McCoubrie and Davies 2006).

In this work, effects of Holy Quran recitation for increasing hope and positive mood states, purpose in life, and overall QOL, called (in this study) life expectancy, in PR patients were investigated. As stated earlier, in this paper, listening, reading, and watching the text of the Holy Quran were considered as Quran recitation. In this work, a standardized questionnaire was designed based on the EORTC C30 Scale QLQ.

Results showed that there was a correlation between Quran recitation and subjective well-being ( $r = 0.352$ ,  $P < 0.001$ ). Moreover, there was a correlation between Quran recitation and increasing LE ( $r = 0.311$ ,  $P < 0.003$ ). In other words, most of the PR patients enrolled in this study believed that Quran recitation helps them psychological well-being and promote healing. Our results were in agreement with McCoubrie and Davies, who found that spiritual well-being is interlinked with psychological well-being. However, they mentioned that “the ability of an individual to make sense of his circumstances and find meaning and purpose when faced with life-threatening illness has far more impact on psychological well-being than does religious faith.”

It was found that after the diagnosis of cancer, patients recite Quran more frequently to increase their spiritual well-being and consequently increasing psychological well-being (Table 2). This finding was in agreement with some other authors (Cotton et al. 1999; McCoubrie and Davies 2006). McCoubrie and Davies found a statistically significant association between the “time since diagnosis” category and the overall spiritual well-being score, i.e., the more distant the diagnosis, the higher the relevant score. However, there was no significant difference between male and females, and different age groups. Considering the increase in LE and subjective well-being, older patients in age group of  $\geq 70$  years showed more belief compared to the other aged groups ( $P = 0.043$ ). Similarly, unlettered patients showed more belief, compared to the other two groups of collegiate and diploma or less ( $P = 0.043$ ).

Our studied population showed superior spiritual well-being and QOL in comparison with the normative data of the general U.S. population (Edmondson et al. 2008, 2003). Edmondson et al. examined the role of religion in providing a sense of meaning and concluded that “religious is beneficial to the degree to which it facilitates the creation and maintenance of meaning, coherence, and purpose. Conversely, if religious beliefs and practices fail to provide meaning or provide meaning that is destructive (i.e., God no longer cares for me), they are ineffectual or detrimental to well-being” (Edmondson et al. 2008). However, many Islamic scholars believe that there is no distinction between religion and spiritual concepts, and spirituality is meaningless without religious thoughts and performances (Rassool 2000). Coherent with this, Islamic clergy men are included in some hospitals in Iran to provide the religious care to patients. The main aspect of this method of care is to help patients to do the Islamic rituals appropriately, which is far away by the spiritual care method that includes an interdisciplinary management to address all dimensions of care, including the spiritual, religious, and existential as well as physical and psychological (Baradaran-Ghahfarokhi 2012).

In this work, we found some evidences that Quran recitation and spiritual well-being can be used as an adjuvant therapy for PR patients. If the direction of causality can be established in future research and spiritual well-being can be shown to increase overall QOL, there is a wealth of opportunity for addressing existential and spiritual matters as a form of treatment for the PR patients. Moreover, it could be argued that addressing

spiritual suffering could result in better psychological and physical well-being and, therefore, improved QOL for these patients with advanced cancer.

It should be noted that it would be wrong to assume that an individual without a religious faith or practice would also have no spiritual need or understanding. In addition to the need for meaning and purpose in life, spiritual needs include the need for love and good relationships with self and others, the need for forgiveness, hope, joy, love, peace, dignity, and trust (Mytko and Knight 1999; Anandarajah and Hight 2001).

Considering the well-recognized difficulties in recruiting palliative care patients into research, this study achieved a reasonable inclusion rate. However, more accurate follow-up studies are needed for the evaluation of the correlation between Quran recitation and LE in PR patients.

## Conclusions

Data presented here suggest a benefit of Quran recitation on outcome of radiotherapy for PR patients. On the basis of the present results, listening, reading, and watching the text of the Holy Quran are useful for increasing life expectancy in palliative radiotherapy patients admitted to Radiotherapy Department. However, it is reiterated that these data are preliminary, and they should be confirmed in future investigations.

**Conflict of interest** None.

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