



Original Article

The effect of the components of King's spiritual intelligence group training on stigma in patients with cancerMasoud Kashani Lotfabadi¹, Bibi Maryam Hashemi^{2*}, Saeed Sarabian³, Azam Mohammadi¹, Azam Salarhaji⁴¹Psychiatry and Behavioral Sciences Research Center, Ibn-Sina Psychiatric Hospital, Mashhad University of Medical Sciences, Mashhad, Iran²Department of Psychology and Consultation, Payame Noor University, Gonabad, Iran³Department of Psychology and Consultation, Payame Noor University, Tehran, Iran⁴Student Research Committee, Faculty of Nursing and Midwifery, Mashhad University of Medical Sciences, Mashhad, Iran

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ABSTRACT

Background & Aim: cancer stigma is one of the Psycho-social consequences of a cancer diagnosis. It seems that spiritual intelligence training can reduce cancer stigma by enhancing spiritual intelligence. Therefore, the purpose of the present research was to determine the effect of the components of King's spiritual intelligence group training on stigma in patients with cancer.**Methods & Materials:** This randomized controlled clinical trial was carried out in Omid Oncology Hospital of Mashhad, Iran in 2018-19. The statistical population of the study included 54 patients with cancer who were then randomly divided into an intervention group (23 individuals) and a control group (27 individuals). The patients in the intervention group received King's spiritual intelligence group training (2008) for ten (90-minute) sessions, while the patients in the control group received routine care. The data collection instrument was Cancer Stigma Scale (patient version). The data were analyzed by SPSS-22 software using independent t-test, Man Whitney, paired t-test, and Wilcoxon statistical test.**Results:** The findings showed that there is no statistically significant difference between the intervention and control groups in terms of stigma total mean score for the pre-intervention phase ($p>0.05$). However, in terms of stigma total mean score changes between the post and pre-intervention phases, there was a significant difference between the scores of the intervention and the control group ($p<0.001$).**Conclusion:** Spiritual intelligence training is effective in reducing stigma among patients with cancer.**Introduction**

Cancer is one of the worst experiences of human beings' lives. It is known as one of the leading causes of mortality and as one of the most important barriers in people's life expectancy in the 21st century (1). According to the estimates of Cancer Research International Agency in 2018, cancer incidents and deaths appear to be around 18.1 and 6.6 million, respectively (2). Based on World Cancer Statistics in 2018, about 110,000 cases of cancer have occurred in Iran, among which 56,000 led to death (3).

Cancer has complex psychosocial consequences including emotional reactions to cancer experience and diagnosis (4). Patients with cancer may also face stigma which is one of the inter-cultural and psychological-social outcomes of the disease (4). Cancer Stigma includes life-threatening conditions (5) that are associated with the concepts of "cancer means death" and "feeling close to death and awareness of the severity of the disease", "making the patient susceptible to death and calculating the number of remaining days" (6). Therefore, in many societies, the term "cancer" is associated with death, fear, and emotions such as anxiety, restlessness, pain, and uncontrollable situations (7). In Iran, most people with cancer report stigma as negative attitudes about not being able to recover

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from cancer and stereotypical aspects of cancer(8). It seems to have started in a gradual process of social context and represents social stigma, self-stigma, coping strategies, and acceptance (9). The consequences of cancer stigma include decreased self-esteem, depression, anxiety, low adherence to treatment, delay in seeking treatment, social deprivation, lack of social support, and reduced quality of life (10).

Spirituality seems to be able to protect patients against the stigma and is also considered as the most effective adjustment mechanism for patients toward stigma (11). In some studies, spirituality is used instead of spiritual intelligence (12). Spirituality exists mainly within religious boundaries that may be defined differently in different religions. But spiritual intelligence is an emerging term that has been widely debated and accepted in both Islamic and Western philosophies as a complementary intelligence. It can help people cope with negative and maladaptive behaviors in social or personal life and develop a positive orientation toward life (13). From the King's perspective (2008), spiritual intelligence is a set of adaptive psychological capacities created based on non-material and existential transcendental aspects that are considered as the different form of moral-religious identity, and is equipped with it has nothing to do with the belief system or individual religion (14, 15). So, King (2008) proposed four main components to describe spiritual intelligence (critical existential thinking, personal meaning production, transcendental awareness, and conscious state expansion) that help regulate an individual's behavior in coping with life problems (14).

From Vaughan's (2002) point of view, spiritual intelligence can be developed by training various mindfulness practices, the evolution of emotions, and reinforcement of morality in all religions. In addition, it helps empower awareness and sensitivity toward internal experiences and it leads to spiritual maturity (a degree of moral and emotional maturity) and moral behaviors (16). the results of some studies have shown that

spirituality can counteract the effect of stigma on self-esteem in patients with hepatitis C (17) and spirituality mediates the negative association between stigma and psychological well-being in patients with HIV (18). But in Appalachia (parts of the United States), there was no significant relationship reported between spiritual well-being and stigma in HIV patients (19). Most studies have investigated the relationship between spirituality and stigma in various diseases that are associated with inconsistent results due to the effect of different cultural and social conditions on stigma and different religions' views on spirituality. Therefore, given the importance of cancer stigma in the pursuit and continuation of treatment and its negative impact on psychological issues, it seems that interventions such as spiritual intelligence training that are less influenced by religions and socio-cultural conditions can be effective in this regard. Researchers, hence, sought to answer the question of whether spiritual intelligence training based on King's (2008) model can reduce stigma in cancer patients.

Methods

It was a randomized clinical trial on hospitalized patients with cancer in Omid Oncology Hospital of Mashhad in 2018-2019. Based on the results of a preliminary study that was performed on 20 eligible patients with cancer, the sample size at 95% confidence level and 80% statistical power was estimated at 54 patients (27 patients in each group) considering a 15% drop rate.

Inclusion criteria of the present study consist of the age range of 20 to 60 years old, definitive cancer diagnosis by laboratory tests and approved by an oncologist, at least 9-years education degree, stage I or II cancer (due to the pathology tests), and no history of psychiatric disorders. Exclusion criteria of the present research include absence in the post-test, absence in one or more intervention sessions, and lack of intention of continuing the study.

The data were collected using the Cancer Stigma Scale (Patient Version), which consists of 12 items that were rated on a 4-point Likert scale (strongly agree=4 to strongly disagree=1). This tool has two subscales of improbability and experience of discrimination (items 1, 2, 3, 4, 8, 9, 10, 11, 12) and molded imagery of cancer patients (items 5, 6, 7). The scores range from 12 to 48 with higher scores indicating more stigma and lower scores indicating less stigma (20). The validity of the Persian translation of this tool was confirmed by ten professors of clinical psychology and psychiatric nurses of Mashhad University of Medical Sciences with CVI=0.88 and CVR=0.94. The total reliability of this tool was also confirmed by Cronbach's alpha of 0.89 carried out by the internal consistency of 20 patients with cancer. Convenient sampling was applied among hospitalized patients with cancer in Omid Oncology Hospital. Using the random numbers table, eligible patients were divided into two groups of intervention (n=27) and control (n=27).

To do so, a list of eligible patients was prepared and a number was assigned to each of them. Then, a number was selected randomly from the random numbers table and the two digits to the right were considered. If the two digits on the right matched the number of people listed, that patient would be selected as the first person in the control group and subsequently, the other numbers (in case of compatibility with the number of persons listed) would be assigned to the intervention group, respectively. This trend would continue until the target sample size (27 people per group) is completed.

Spiritual intelligence training for the intervention group was performed based on King Model (2008) (14) in Omid Oncology Hospital of Mashhad. Spiritual intelligence training sessions were held in groups of 13 and 14; there were ten 90-minute sessions which were held twice a week (on Sundays and Thursdays). The topics of the sessions are presented in detail in table 1.

Table 1. Content of the spiritual intelligence training package based on King's model (2008)

Title	Purpose	Content	Time	Training method	Professor
First session	Introducing and explaining the spirituality and its features	Explaining the spirituality and its features by encouraging participants to question their conventional beliefs and thinking about life purposes as the principal spiritual needs of all human beings	1.5 hours	Question and answer and group discussion	Ph.D. in clinical psychology
Second session	Relaxation training	Training deep breath and mental relaxation to reduce everyday anxieties and concerns, and putting aside the annoying thoughts; "take a deep breath... hold it... breath out"	1.5 hours	Question and answer and group discussion	Ph.D. in clinical psychology
Third session	Meditation training	Due to the Islam points of view, four sessions executed in the constitution, meditation, computation, and blaming (selecting one thought from other thoughts and examining its orientation and thinking about that with no attention toward others' thinking)	1.5 hours	Question and answer and group discussion	Ph.D. in clinical psychology
Fourth session	Training self-awareness skills	Answering the following questions: "who am I?" and "what is the purpose of my life?" and thinking about ourselves, understanding our emotions, and abilities	1.5 hours	Question and answer and group discussion	Ph.D. in clinical psychology
Fifth session	Training the effective factors on self-awareness and its barriers	Thinking about the definition of self-acceptance, accepting others, and the ways to accept ourselves and others to find self-awareness and its barriers such as too much expectations, perfectionisms and prides	1.5 hours	Question and answer and group discussion	Ph.D. in clinical psychology

Sixth session	Training the fundamental questions of life	Who am I? What is the purpose of the world? Do I have the right to choose of I have to accept everything?	1.5 hours	Question and answer and group discussion	Ph.D. in clinical psychology
Seven session	Training methods to find the meaning of life	What is the meaning of suffering? What is the purpose of suffering? (by providing examples of important religious characteristics)	1.5 hours	Question and answer and group discussion	Ph.D. in clinical psychology
Eight session	Existential-critical thoughts	Proposing questions about life philosophy and the purpose of the world creation (to promote more transcendent goals in life)	1.5 hours	Question and answer and group discussion	Ph.D. in clinical psychology
Ninth session	Creating personal meaning	Meaning extraction personal goal for all material and psychological experiences such as behavior capacity and set goal in life.	1.5 hours	Question and answer and group discussion	Ph.D. in clinical psychology
Tenth session	Developing awareness	Paying attention to spirituality, making close inter-personal relationships, cognition, describing spirituality and its roles in life	1.5 hours	Question and answer and group discussion	Ph.D. in clinical psychology

The content of spiritual intelligence training was prepared as PowerPoint slides before the intervention. It was administered by an experienced clinical psychologist trained in spiritual intelligence training and supervised by an oncologist in group discussion and follow-up question and answer sessions. The patients in the control group received routine care from the hospital. Data were collected from the intervention and control group before the intervention and also 8 weeks after intervention. The researchers attempted to motivate patients to continue attending the study and spiritual intelligence sessions by communicating with patients and through empathetic behaviors to help patients express their emotions and concerns about cancer and to consider ethically rewarding compensation strategies.

Eligible patients who were interested in participating in the research were asked to complete a written consent. Moreover, the proposal was approved by the ethics committee of the Medical Sciences University of Mashhad with the following Ethics Code: IR.MUMS.REC.1397.047. It has also been registered and approved by IRCT20180509039597N1 at Iran Clinical Trials Center.

Data analysis was performed by SPSS-22 software. Kolmogorov-Smirnov test and Shapiro-Wilk test were used to examine the normal distribution of quantitative data. Chi-

square test, Fisher, and independent t-test were implemented to investigate the homogeneity of qualitative and quantitative variables. Besides, an independent t-test and Man-Whitney test were employed to compare the stigma and subscales changes before and after the interventions. In addition, paired t-test and Wilcoxon tests were employed to compare the intra-group changes in stigma and its subscales in each group. The statically significant coefficient was considered at a 95% confidence interval (CI) level and $\alpha=0.05$.

Results

54 patients with cancer participated in the current study and were present until the end of the research (Figure 1).

Most participants of the present study were female (66%) and married (62%) with an average age of 43.2 ± 15.3 . Results showed that there was no statistically significant difference between the two groups in terms of demographic characteristics of the patients with cancer ($p>0.05$) (Table 2).

In the within-group comparison, the results of the independent t-test showed that there was no significant difference between the two groups before the intervention in terms the mean of total stigma score and the impossible improvement, and experiencing social discrimination subscales ($p>0.05$).

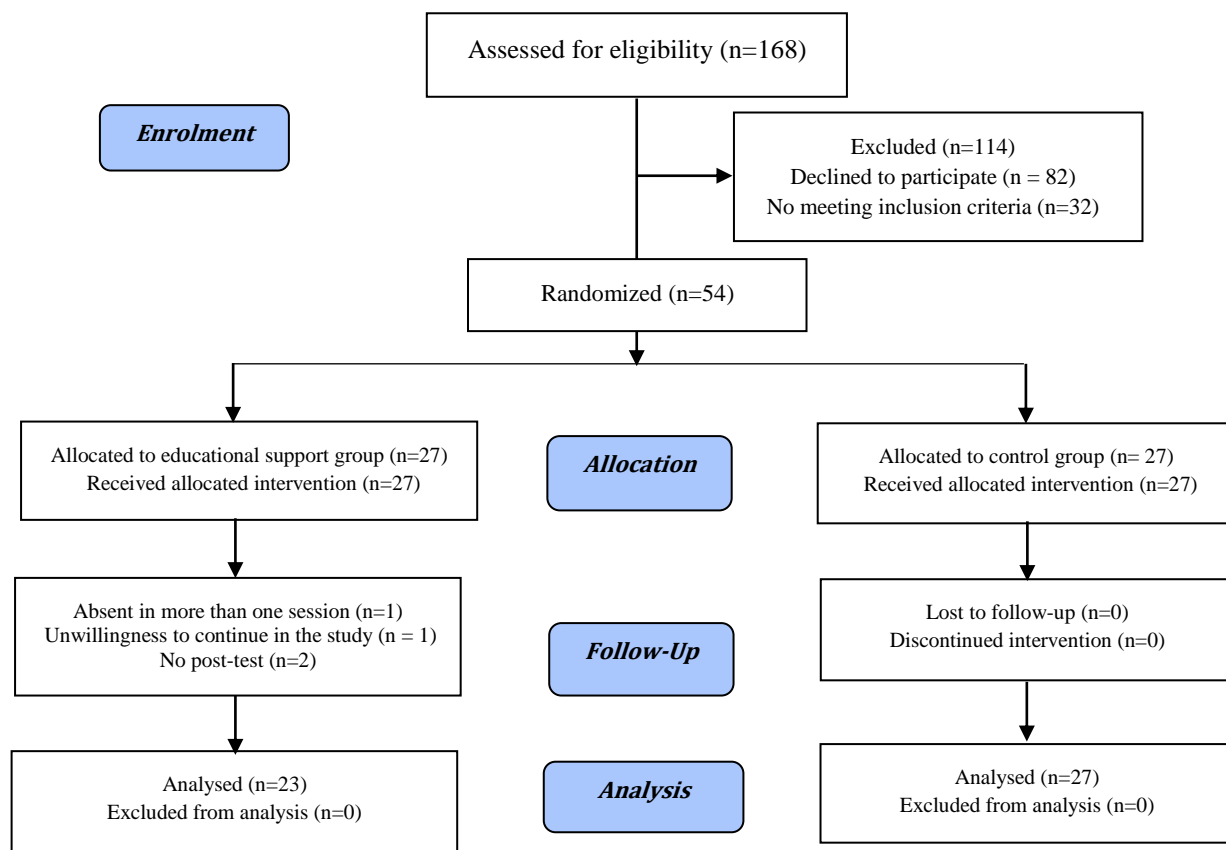


Figure 1. Consort flow diagram of the study

Table 2. Demographic characteristics of patients with cancer by intervention and control groups

Group		Intervention (n=23)	Control N=27	P-value
Variable		n (%)	n (%)	
Sex	Female	15 (65.2)	18(66.7)	0.99= P*
	Male	8(34.8)	9(33.3)	
Marital status	Married	15(65.2)	16(59.3)	0.89= P**
	Single	5(21.7)	4(14.8)	
	Divorced	3(13.0)	2(7.4)	
Level of education	Widow	0(0.0)	5(18.5)	0.15 =P**
	Third guidance	13(56.5)	17(63.0)	
	Diploma	7(30.4)	7(25.9)	
Employment status	Academic education	3(13.0)	3(11.1)	0.44 =P**
	Government employment	1(4.3)	1(3.7)	
	Freelance job	3(13.0)	8(29.6)	
	Housewife	12(52.2)	13(48.1)	
	Unemployed	7(30.4)	5(18.5)	
Quantitative variables		Mean ± SD	Mean ± SD	
Age (years)		16.5 ±49.3	14.9 ± 42.6	0.76 = p***

*Fisher exact test **chi-square *** Independent t-test

However, independent t-test results showed that there was a significant difference between the two groups in terms of the mean of the total score of changes in stigma and subscales of impossible improvement, and experiencing social discrimination between pre and post-intervention phases ($p < 0.05$). In the within-group comparison, the results of the paired t-test showed that pre and post-test phases significantly decreased in terms of the mean of the total score of stigma and subscales of impossible improvement and experiencing social discrimination in the intervention group ($p < 0.05$). However, there was no statistically significant difference reported in the control group ($p > 0.05$) (Table 3).

In within-group comparison, the results of the Man-Whitney test showed that there

was no statistically significant difference between the two groups in the pre-intervention phase in terms of the mean score of the stereotypes subscale ($p = 0.99$). However, the results of the independent t-test showed that there was a significant difference between the intervention and control groups in terms of the mean score of changes of stereotypical subscale between pre- and post-intervention phases ($p = 0.008$) (Table 3). In the within-group comparisons, the Wilcoxon test results showed that pre and post-test phases significantly decreased in terms of the mean score of stereotypes subscale in the intervention group ($p = 0.003$). However, there was no statistically significant difference in the control group ($p = 0.08$) (Table 3).

Table 3. Comparison of stigma and its subscales in cancer patients in two intervention and control groups

Variable	Intervention	Control	Result	
	Mean \pm SD	Mean \pm SD		
Impossibility of recovery and experience of social discrimination	Before Intervention	17.1 \pm 4.4	18.0 \pm 4.8	t=0.69 *p= 0.49
	After Intervention	13.6 \pm 3.1	18.0 \pm 4.7	t=3.83 *p= 0.001
	Before and after intervention difference	3.5 \pm 5.1	0.0 \pm 0.6	t=3.2 *p= 0.004
	result	t=3.28 ***p= 0.003	t=0.0 ***p= 0.10	result
Stereotypes of cancer patients	Before Intervention	8.0 \pm 1.3	7.9 \pm 1.5	Z= 0.01 **p= 0.99
	After Intervention	6.6 \pm 1.2	7.7 \pm 1.6	Z=2.52 **p=0.01
	Before and after intervention difference	1.4 \pm 1.8	0.2 \pm 0.4	t=2.9 *p= 0.008
	Wilcoxon test result	Z=2.94 ***p= 0.003	Z=0.64 ***p= 0.08	Independent T-test result
Total stigma	Before Intervention	25.9 \pm 5.6	26.0 \pm 5.4	t=0.08 *p=0.93
	After Intervention	20.2 \pm 3.7	25.7 \pm 5.5	t=4.20 *p=0.001
	Before and after intervention difference	5.6 \pm 3.2	0.26 \pm 0.7	t=8.6 *p< 0.001
	Result	t=8.50 ***p= 0.001	t=1.89 ***p= 0.07	

* Independent T-test ** U Mann-Whitney *** Paired t-test

Discussion

The purpose of the present research was to determine the effect of spiritual intelligence training based on King Model (2008) on stigma among patients with cancer. The results of the study showed that

spiritual intelligence training reduces stigma and subscales of impossible improvement, experiencing social discrimination and stereotypes among the patients. Most of the studies in spiritual intelligence training are related to Iran. The results of the previous studies proved that spiritual intelligence

training empowers the social, emotional, and familial adjustments among patients with breast cancer (21) and spiritual and cognitive group therapy can reduce death anxiety in patients with cancer (22). These are in line with the results of the present study.

Most patients with cancer may experience doubts about religious values and beliefs and identity destruction (23) which is often accompanied by feelings of anger towards God and confronts them with numerous existential challenges such as religious-spiritual tension and inconsistent communication with God (24). So often, they ask themselves, "Why did God allow this to happen" and "Has God left me?"(25). Therefore, it seems that spiritual intelligence training can help the patient to be at peace with God and hope for a good life after death by enhancing their spiritual readiness and relationship with God and quality of death (26, 27). Understanding stressful events such as cancer fatality can help reduce death-related stress through the different interpretation of events. The interpretation of cancer from a spiritual perspective can be an "opportunity for growth" (benevolent religious revision) and from a non-spiritual perspective as a "punishment from God" (retribution of God). The first interpretation will be accompanied by "adaptation" and the second by "incompatibility"(28). Cancer stigma is related to the inability to cure and the deadly stereotypes of cancer. It seems that spiritual intelligence training can reduce cancer stigma by promoting spiritual intelligence.

The results of a seminal study by Hutson et al. (2018) showed that there is no significant relationship between stigma and spiritual well-being in HIV patients (18, 19), which does not confirm the results of the present study. One of the reasons could be the different stigma of cancer and HIV, which is strongly influenced by cultural and social conditions. In another study by Mahmoudirad et al. (2015), spiritual intelligence training was not able to continuously reduce nurses' job stress in one-month follow-up sessions (29), which does not conform to the results of the present

study. This may be due to the lack of follow-up in the present study.

One of the limitations of the present study was undesirable psychological conditions that have led to no willingness to participate in the study for many patients. So, most of the participants had more desirable psychological conditions. Some other patients also refused to participate in the study because of living outside of Mashhad. Most of the participants in this study were from Mashhad.

Conclusion

The results of the present research showed that group training through King's spiritual intelligence is effective in reducing stigma and its subscales in patients with cancer. Hence, it is suggested to use spiritual intelligence training to reduce cancer stigma in other Oncology Hospitals.

Conflict of Interest

The authors declare that there are no conflicts of interest in the publication of this study.

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