Original Article

Examination of the effect of logotherapy on life expectancy and death anxiety in cancer patients at 5 Azar Hospital of Gorgan, Iran in 2017

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ABSTRACT

Cancer is considered as a chronic disease in human society, suffering from which is a horrific diagnosis leading to death anxiety and loss of life expectancy among the patients. The study was conducted to determine the effectiveness of logotherapy on life expectancy and death anxiety in cancer patients at 5 Azar Hospital of Gorgan, Iran in 2017. Methods: The study was experimental with simple random sampling method where the population was all cancer patients admitted to 5 Azar Hospital. Forty subjects were selected from this population using convenience sampling and randomly assigned to experimental (20 subjects) and control (20 subjects) groups. In group-logotherapy training, 8 sessions of 60-90 minutes were performed in 4 groups of 5. No intervention was performed in the control group. Data collection tools were Snyder's Adults Hope Scale (AHS) and Templer's Death Anxiety Scale (DAS). Results: According to the obtained results, life expectancy and death anxiety in the experimental group were higher than those of the control group after the intervention. Moreover, paired t-test showed a significant difference in the experimental group before and after the intervention, so that logotherapy improved life expectancy and mitigated death anxiety in cancer patients ($p < 0.01$). Conclusion: Considering the effect of logotherapy on improving life expectancy and mitigating death anxiety in cancer patients, it is recommended that relevant authorities try to change the viewpoints of cancer patients about death and meaning in life through counseling and psychotherapy sessions.

Keywords: Logotherapy, life expectancy, death anxiety, cancer.

Introduction

In spite of medical progress in cancer control, it is still the leading cause of death, with no definitive treatment [1], currently accounting for 12% of deaths. It has been estimated that deaths by cancer will increase to 6-10 million per year by the next 20 years. Early diagnosis of cancer is still considered as a life-threatening event by many patients [2], which make them cope with death. Patients even consider some cancers with treatment equal to death given misinformation and thus face a major crisis, a crisis threatening the patients and their families [3], after which they become anxious. Here, one of these anxieties is death anxiety. Death anxiety is defined as an abnormal and misplaced fear of death, along with a sense of the fear of death, or the anxiety when thinking of death process or what happens afterwards [3]. Death anxiety may become a lasting stress that damages one's health [4]. All people are anxious about death, which is far greater in cancer patients [5]. Statistics indicate that 71% of death anxiety exists in cancer patients [6].

The treatment team mostly focuses on stabilizing physical and bodily symptoms (pain relief, nausea, vomiting, and so on) of the patients in most cases. However, with progression of the disease and the accompanying symptoms, the patients suffer from pain, suffering, loneliness, punishment and control

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reduction, all of which are known as aspects of death anxiety [7].

It is not surprising that death has the power to lead to fear of disability, separation, loss of control, emptiness, meaninglessness [8] and disappointment [9]. Thus, life expectancy is a critical issue to be addressed in these patients, as hope is an important mechanism that exists in chronic diseases, such as cancer, and can potentially lead to recovery and adaptation [10]. Thus, one of the significant and effective factors of health, longevity, recovery and stability of patients is hope [11]. People with higher hope are more creative and have more incentive to pursue their alternatives and goals. More importantly, they can learn from previous situations and failures to achieve future goals [12]. Hope, empowering people to confront challenges and overcome sorrow, is an important factor in human life. Disappointment resulted from the problems of combating disease, long-term treatment, and other problems reduces the patient's quality of life and may lead to general depression [13]. Disappointed people believe that nothing will be effective for them, and their treatment is non-beneficial because they believe in negative predictions [14]. Hope in chronic illness is an endless process with a positive impact on people's health, as it enables individuals to cope with the crisis, maintaining quality of life, satisfaction in achieving healthy goals, and promoting health [15, 16]. Hope is a factor with therapeutic value in coping with chronic pains or life-threatening events [17].

However, progress in identification of enhanced tools and health services is not enough to eliminate the feelings of fear and despair towards death [9], but needs learning new skills and training, or using new methods that the patient cannot handle. Thus, the patient needs support by others, such as psychotherapists [18]. Thus, supportive care with different counseling techniques is an integral part of patient treatment [19]. One of the commonly used therapeutic strategies to reduce frustration in the lives of patients with non-treatable diseases is logotherapy approach [18].

Logotherapy is a psychological system that helps patients not to focus on grief and frustration of the lost, but to seek meaning. According to Frankl's theory, one of the causes of human vulnerability is the lack of meaning and aim in life. Seeking meaning in life and purposefulness help achieve personality perfection and elimination of mental illnesses [20].

A study by Ebrahimi et al. (2014) on the effect of logotherapy on the increase in the leukemia patients' hope showed that training logotherapy could increase the hope for patients with leukemia. Moreover, the permanent evaluation of this study has indicated similar results [18].

Furthermore, the results of the study by Mohabbat-Bahar (2014) aimed at examining the effect of group logotherapy on reducing the anxiety of women with breast cancer indicated that group logotherapy was effective in reducing the anxiety of women with breast cancer [21].

In another study by Kang et al. (2009) about the effectiveness of logotherapy in adolescents with cancer, the results showed that logotherapy had an effect on the life of cancer patients and increased morale and reduced suffering [22].

Another study by Breitbart et al. (2015) entitled Meaning-Centered Group Psychotherapy: An Effective Intervention for the Improvement of Psychological Well-Being in Patients with Advanced Cancer in cancer patients, showed decreases in depression, frustration, and significant improvements in mental health and quality of life in patients [23].

All these studies indicate that logotherapy is one of the psychological interventions that can significantly improve the mental health of cancer patients and can greatly help them with its specific techniques [24].

Cancer is the second leading cause of death in the world. The presence of chronic illness related to death, such as cancer causes death anxiety [8] and hopelessness [9], and according to Viktor Frankl cancer, patients who face serious death have the prerequisite for a better understanding of life because it has put an end to the absurdity and meaninglessness of their lives [25]. Hence, logotherapy intervention seems necessary for these patients as various studies have reported the usefulness of logotherapy in these patients [18-21, 26-28] and as cognitive, behavioral and social factors can affect the adaptation to diagnosis and treatment of cancer, many researchers have evaluated the effects of psychological interventions on psychological adaptation during treatment [29]. However, in most of the cases, the treatment team focuses mostly on the physical problems of these patients and less significance is given to their psychological problems. Thus, the researcher tried to determine the effect of logotherapy on life expectancy and death anxiety in cancer patients. Therefore, due to the sensitivity of cancer issue and its physical and psychological consequences on patients, and also the need for interventional procedures, this study tried to investigate the effect of logotherapy on life expectancy and death anxiety in cancer patients.

Method

The study was experimental with simple random sampling method where the population was all cancer patients admitted to 5 Azar Hospital. Forty subjects were selected from this population using convenience sampling and randomly assigned to experimental (20 subjects) and control (20 subjects) groups. A sample size of 40 subjects was determined in two groups of 20 subjects with a size effect of 1.28, a significant level of $p = 0.05$, and a test power of 95%. The inclusion criteria were having a medical record related to a definitive diagnosis of cancer, age range of 30-60 years, patients undergoing chemotherapy, lack of chronic diseases (heart, lung, kidney, liver, and so on), tendency to participate in research, no participation of patients in the past logotherapy sessions, and lack of psychological problems, and patient death. The exclusion criteria were having chronic diseases (cardio, lung, kidney, liver, and so on), reluctance to participate in the study and psychological problems. After the approval of the project in the research council of the department and obtaining the

ethics code from the Ethics Department of Islamic Azad University of Chalous Branch and obtaining permission from the hospital, the researcher referred to the hospital. The cancer patients admitted to the oncology department of this center were invited to participate in this study. Then, by considering the ethical considerations, after giving some explanations to them on the goals, the importance of the study and the process of the study, written consent and informed consent were taken from them, and they were included in the study. They were assured that their information would remain confidential and if they become unwilling even during data collection, they can leave the study. Prior to the educational intervention, the life expectancy and death anxiety questionnaires were distributed among the control and experimental groups. It should be noted that the researcher filled out the questionnaires for illiterate patients (n = 6) by interviewing. All the questionnaires were completed, and none of the patients refused to complete the study. Then, logotherapy training intervention was implemented with group logotherapy as 8 sessions of 60-90 minutes in four groups of five subjects in 4 weeks (Table 1). Psychological intervention was performed in accordance with Victor Frankl's books and Breibart's papers (2010 and 2012) [29-32]. Logotherapy sessions were conducted by a psychiatric mental health nurse and a clinical psychologist. There were no interventions in the control group. Then, after completing logotherapy group training, the death anxiety and life expectancy questionnaires were completed by both groups again.

In this study, three demographic characteristics questionnaires were used including (gender, education level, marital status, place of residence, occupation), Snyder Hope Questionnaire (SHQ), developed by Snyder et al. in 1991 to measure the life expectancy of adults (over 15 year). [33].

SHQ has 12 questions whose purpose is to measure the life expectancy of people implemented as self-assessment. The questionnaire has four items for evaluating agency thinking, four items for measuring strategic thinking, and four alternatives and the scoring method is based on the Likert scale of 5 options, but the scoring method for the questions 3, 7 and 11 was inverse. The options were 1) totally disagree, 2) disagree, 3) no idea, 4) agree, and 5) fully agree. The factor thinking subscales included four questions (2, 9, 12), subscale of paths had four questions (1, 4, 7, 8), and the rest four questions (1, 4, 7, 8) and four questions (3, 5, 6, 11) were as diversionary questions [34]. Snyder et al. (1991) found an overall internal consistency of 0.74-0.84 for this scale through Cronbach's alpha, Grewal et al. (2007) for factor thinking subscales of 0.71-0.76, and Alexander (2007) for paths of 0.63-0.80 through rehearsal after 3 weeks (0.85), after 8 weeks (0.73), and after 10 weeks (0.82) [33, 35, 36]. Kermani et al. (2011) obtained a total score of 0.86 for scale hope, 0.77 for thinking factor subscale, and 0.79 for paths subscale. They concluded that Snyder's life expectancy scale has a good validity and reliability for Iranian population and can be used in Iranian psychological assessments; hence, it is usable as a valid and appropriate tool in clinical and educational settings to evaluate individuals and provision of therapeutic and preventive plans [34]. Therefore, the validity and reliability of this paper was used here. The questions 3, 7, and 11 are scored reversely with options of 1) strongly disagree, 2) disagree, 3) neutral, 4) agree, and 5) strongly agree.

The next tool was Templer's DAS that was developed by Professor Templer and published in 1970 [37]. Rajabi and Bohrani translated this questionnaire into Farsi. Rajabi and Bohrani have examined the reliability and validity of this scale, based on which split-half reliability is 0.6 and the coefficient of internal consistency 0.73 [38].

The questionnaire has 15 questions with "yes or no" answers score, based on which a score of 1 or zero is assigned (score 1 if the individual's response shows death anxiety and zero if the response shows the absence of death anxiety). For instance, in the question "Are you worried about death?" The answer no shows no anxiety in the individual, meaning that zero and yes show death anxiety in the person that gets one. The score of the questionnaire was from zero (no death anxiety) up to 15 (very high death anxiety), whose middle (6-7) was considered as the cut off score. More than that (7 to 15) death anxiety was considered high and less than that (6 to zero) considered low.

Results

The demographic characteristics of the patients showed that men formed the highest percentage of subjects in the experimental 85% and control groups 75%. In terms of education, the highest percentage was for illiterate (30%) in the experimental group and 30% primary and secondary, respectively. In the experimental group 95% and 80% in the control group were married, 70% in the experimental group and 60% in the control group were urban resident. The highest percentage (40%) was self-employed in the experimental group and 30% were homemakers and self-employed (Table 2). As shown in Table 3, independent t-test showed no significant differences between the intervention and control groups ($p = 0.11$). After intervention, however, this difference was significant, that is, life expectancy was higher in the experimental group $p < 0.001$)(Table 3). Paired t-test revealed no significant differences before and after intervention in control group ($P = 0.41$), but there was a significant difference in the test group before and after the intervention ($p < 0.01$). In other words, this finding indicates that logotherapy has improved life expectancy in cancer patients (Table 4). In other words, this result shows that logotherapy increases life expectancy among cancer patients. Also, ANCOVA showed significant differences between the trial and control groups by removing the pretest effect, indicating that probably 32.2% of post-test variation has resulted from intervention (Table 5). According to independent t-test, there was no significant differences in death anxiety of patients between the intervention and control groups before intervention ($P = 0.58$). This test did not show any significant difference between the experimental and control groups after intervention as well ($p = 0.24$) (Table 6). Concerning death

anxiety of cancer patients before and after intervention, paired t-test revealed no significant differences in the control group before and after intervention ($P = 0.67$). This test, however, showed a significant difference in the trial patients before and after intervention ($p < 0.01$) (Table 7). Also, ANCOVA showed significant differences between the trial and control groups by removing the pretest effect, indicating that probably 0.27% of post-test variation has caused by intervention (Table 8).

Discussion

The study was conducted to determine the effect of logotherapy on life expectancy and death anxiety in cancer patients in 5 Azar Hospital of Gorgan. The results regarding the first hypothesis showed that logotherapy could increase the life expectancy of cancer patients, which is in line with the results of Borjali et al. (2016). Their study showed that group logotherapy is effective in improving the life expectancy of patients with gastric cancer [39].

In addition, Haji Azizi et al. (2017) witnessed the effect of logotherapy on reducing death anxiety and increasing life expectancy in elderly people, which is consistent with the present study, except that the type of research sample is different [40]. Furthermore, the study is in line with the study of Ebrahimi et al. (2014) [18] and Abolgasemi et al. (2010), showing that logotherapy significantly increases life expectancy in patients with cancer [41]. A study by Shoaae Kazemi and Saadati (2010) showed that logotherapy training reduced disappointment in women with breast cancer [42]. Our findings are also consistent with those of Sand et al. (2008), Jaarsma et al. (2007), and Breitbart et al. (2015) on the effectiveness of logotherapy intervention in mitigation of frustration and mental disorders [25, 43, 44].

Concerning the second hypothesis, the results showed that logotherapy reduced the death anxiety in cancer patients. This is in line with the results of Ghorbanalipour and Ali Esmaeili (2012), showing that the death anxiety of the experimental group in the post-test and follow-up stages was significantly lower than the control group [45]. This research is also consistent with Borj Ali et al. (2016) [39]. In explaining this consistency, one can write the person with cancer is always waiting for death, and death anxiety is very high in this group because they are struggling with death. Logotherapy helps people to have a different perspective on life, suffering and death. In this regard, Yalom (1998) states that participation of patients in group psychotherapy sessions, visualization of death, and dealing with their feelings of death in the group make the human look at life with a new thought and a different vision [46]. Van Laarhoven (2011) writes that one's attitude towards death affects his way of dealing with the preparation for death that is stressful [47]. Pire Khaefi states that logotherapy can promote mental health in breast cancer patients, who have serious problems in the meaning of life. In fact, logotherapy reduced anxiety and discomposure of cancer in experimental patients, which is mainly based on death and inexistency, rendering them more relaxed. Psychological treatments can also promote mental pains cancer patients who are usually concerned with feeling frustrated and losing their sense of living [27].

Humans try to determine the causes of their suffering. Finding the meaning and purpose is a driving force that can destroy their suffering and cause mental health [24]. Brallier has stated that if cancer patients realize the meaning of their suffering, their pain can be reduced [48]. In fact, the therapist helps the patient discover the latent meaning in these conditions. When a person discovers the latent meaning, one will no longer feel helpless or disappointed. Participating in such training sessions will increase one's responsibility and interaction with the counterparts by emphasizing the meaning, aim, and values of life. Individuals are encouraged to work and try for their recovery by taking this responsibility and accepting the illness [42].

Logotherapy can provide them with an incredible courage of death. In fact, even if they are suffering, this type of treatment gives them the meaning of life [24] and the awareness of the inevitable death of patients gives them the opportunity to live courageously with the knowledge of the gospel .The horrific events like cancer change a person's perception of the meaning of life. Negative effects of cancer are well documented, but patients are usually exposed to positive events, such as being closer to friends and family, and showing love and nursing that people find in the course of a severe diagnosis of illness and treatment [45].

Conclusion

According to the results, it can be concluded that logotherapy as a psychological intervention makes changes in the life of cancerous people. Thus, given the effect of logotherapy on increasing life expectancy and reducing death anxiety in cancerous people, it is recommended that relevant authorities try to the perspective of cancer patients towards death and meaning in life through counseling and psychotherapy sessions. Also, more attention should be paid to the psychological aspect of patients in addition to their physical condition, which can have unpleasant effects on the lives of these patients.

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Conflict of Interest

All authors declare that there is no conflict of interest.

References

1. Nozari M, Dousti Y. Attitude toward death in healthy people and patients with diabetes and cancer.Iran J Cancer Prev. 2013;6(2):95.
2. Ali MS, Osmany M, Khan W, Mishra D. Fear of death, depression and coping among cancer patients. Indian Journal of Health & Wellbeing. 2014;5(6).
3. Venes D. Taber's cyclopedic medical dictionary: FA Davis; 2009.
4. Yang H, Zhang J, Lu Y, Li M. A Chinese version of a Likert-type death anxiety scale for colorectal cancer patients. International Journal of Nursing Sciences. 2016;3(4):337-41.
5. Dégi CL. Non-disclosure of cancer diagnosis: an examination of personal, medical, and psychosocial factors. Supportive Care in Cancer. 2009;17(8):1101-7.
6. Shinn EH, Taylor CLC, Kilgore K, Valentine A, Bodurka DC, Kavanagh J, et al. Associations with worry about dying and hopelessness in ambulatory ovarian cancer patients. Palliative & supportive care. 2009;7(3):299-306.
7. Salehi f, Mohsenzadeh F, Arefi M. A Survey on the Prevalence of Death Anxiety in Patients with Breast Cancer in Kermanshah, Iran. Iranian Journal of Breast Disease. 8 (4):34-40.
8. Iverach L, Menzies RG, Menzies RE. Death anxiety and its role in psychopathology: Reviewing the status of a transdiagnostic construct. Clinical psychology review. 2014;34(7):580-93.
9. Şahan E, Eroğlu MZ, Karataş MB, Mutluer B, Uğurpala C, Berkol TD. Death anxiety in patients with myocardial infarction or cancer. The Egyptian Heart Journal. 2018.
10. Herth K, editor The relationship between level of hope and level of coping response and other variables in patients with cancer. Oncology Nursing Forum; 1989. ; 16(1):67-72.
11. Mohammadi F, Fard FD, Heidari H. Effectiveness of logo therapy in hope of life in the women depression. Procedia-Social and Behavioral Sciences. 2014;159:643-6.
12. Kavradim ST, Özer ZC, Bozcuk H. Hope in people with cancer: a multivariate analysis from T urkey. Journal of advanced nursing. 2013;69(5):1183-96.
13. Ercan F, Demir S. Hopelessness and Quality of Life Levels in Hemodialysis Patients. Gazi Medical Journal. 2018;29(3).
14. Andrade SV, Sesso R, Diniz DHdMP. Hopelessness, suicide ideation, and depression in chronic kidney disease patients on hemodialysis or transplant recipients. Brazilian Journal of Nephrology. 2015;37(1):55-63.
15. Hojjati H, Taheri N, Akhundzade G, Heydari B, Sharifnia S. H. Resorting to pray rate in hemodialysis patients of Golestan province. Iran J Crit Care Nurs.2010;3(2):75.
16. Afazel MR, Aghajani M, Morassaie F. The effects of spiritual counseling on the hope in hemodialysis patients: A clinical trial study. Journal of Evidence-Based Care. 2013;3(9):19-28.
17. Miller, J. F. & Powers, M. J. 1988. Development of an instrument to measure hope. Nursing Research.
18. Ebrahimi N, Bahari F, Zare-Bahramabadi M. The effectiveness of group logo therapy on the hope among the leukemic patients. Iranian journal of cancer prevention. 2014;7(1):9.
19. Delavari H, Nasirian M. Logo therapy effect on anxiety and depression in mothers of children with cancer. Iranian journal of pediatric hematology and oncology. 2014;4(2):42.
20. Frankl, V. (1965). The doctor and the soul. New York, Bantam Books.
21. Mohabbat-Bahar S, Golzari M, Moradi-Joo M, Akbari ME. Efficacy of group logotherapy on decreasing anxiety in women with breast cancer. Iranian journal of cancer prevention. 2014;7(3):165.
22. Kang K, Im J, Kim H, Kim S, Song M, Sim S. The effect of logotherapy on the suffering, finding meaning, and spiritual well-being of adolescents with terminal cancer. Journal of Current Directions in Psychological Science. 2009;312.
23. Breitbart W, Rosenfeld B, Pessin H, Applebaum A, Kulikowski J, Lichtenthal WG. Meaning-centered group psychotherapy: an effective intervention for improving psychological well-being in patients with advanced cancer. Journal of Clinical Oncology. 2015;33(7):749.
24. Frankle.V(1977). Logotherapy. Translate by mohammadpour. Tehran danjeh publisher 1382.
25. Pirkhaefi A, Salehi F. The Effectiveness of Group logo Therapy Meaning on Improving Mental Health in Women with Breast Cancer.Health psycology.2014;2(4):61-69.
26. Morgan JH. Geriatric logotherapy: Exploring the psychotherapeutics of memory in treating the elderly. Psychological Thought. 2012;5(2):99-105.
27. Esping A. Autoethnography as Logotherapy: An Existential Analysis of Meaningful Social Science Inquiry. Journal of Border Educational Research. 2011; 9(1): 59-67.
28. Antoni MH. Psychosocial intervention effects on adaptation, disease course and biobehavioral processes in cancer. Brain Behave Immun. 2013; 30(Supple):88-98.
29. Frankl VF: Man's Search for Meaning (ed 4).Boston, MA, Beacon Press, 1959/1992
30. Frankl VF: The Will to Meaning: Foundations and Applications of Logotherapy—Expanded Edition. New York, NY, Penguin Books, 1969/1988.
31. Breitbart W, Rosenfeld B, Gibson C, Pessin H, Poppito S, Nelson C, et al. Meaning-centered group psychotherapy for patients with advanced cancer: a pilot randomized controlled trial. Psycho-Oncology. 2010;19(1):21-8.
32. Breitbart W, Poppito S, Rosenfeld B, Vickers AJ, Li Y, Abbey J, et al. Pilot randomized controlled trial of

individual meaning-centered psychotherapy for patients with advanced cancer. Journal of Clinical Oncology. 2012;30(12):1304.

33. Snyder CR, Harris C, Anderson JR, Holleran SA, Irving LM, Sigmon ST, et al. The will and the ways: Development and validation of an individual-differences measure of hope. Journal of personality and social psychology. 1991;60(4):570.
34. Kermani Z, Khoda Panahi M, Heydari M. Features of Psychology Scale of Snyder Life Expectancy. Journal of Applied Psychology.2011 3(19):7-23.
35. Grewal PK, Porter JE. Hope theory: A framework for understanding suicidal action. Death studies. 2007;31(2):131-54.
36. Alexander ES, Onwuegbuzie AJ. Academic procrastination and the role of hope as a coping strategy. Personality and Individual Differences. 2007;42(7):1301-10.
37. Templer DI. The construction and validation of a death anxiety scale. The Journal of general psychology. 1970;82(2):165-77.
38. Rajabi GH & Bohrani M .Death Anxiety Scale factor analysis questions. Journal of Psychology, 2001; (20); 331-345.
39. Borjali M, Abbasi M, Asadian A, Ayadi N. Effectiveness of group logo therapy on the anxiety of death and life expectancy of patients with stomach cancer. Jundishapur scientific medical Journal.2016;15(6):635-45.
40. Hajiazizi AH, Bahmani B, Mahdi N, Manzari Tavakoli V, Barshan A. Effectiveness of Group Logotherapy on Death Anxiety and Life Expectancy of the Elderly Living in Boarding Houses in Kerman. Iranian Journal of Ageing. 2017;12(2):220-31.
41. Abolghasami S, Saeadi S, Morri NN. The effect of guided imagery and logo therapy on depression, anxiety and hopefulness in women with cancer in ahwaz. Scientific Research Quarterly Journal Women andCulture, 2011; 2(5): 31-47.
42. Shoa Kazemi M, Saadati M. Investigating the Effect of Teaching Dimensional Dimensions (Values and Freedom, Responsibility(for Decreasing Despair in Cancer Women. Iranian Journal of Disease Breast .2010;3:40-48.
43. Sand L. Existential challenges and coping in palliative cancer care: experiences of patients and family members: Institutionen för onkologi-patologi/Department of Oncology-Pathology; 2008.
44. Jaarsma TA, Pool G, Ranchor AV, Sanderman R. The concept and measurement of meaning in life in Dutch cancer patients. Psycho-Oncology: Journal of the Psychological, Social and Behavioral Dimensions of Cancer. 2007;16(3):241-8.
45. Gorbanali pour M, Smaily A. Determine of Logo therapy effectiveness on anxiety of death in the elderly. Journal of Counseling and Psychotherapy culture, 2012; 3(9): 54-67.
46. Yalom I D, Vinogard J G. bereavement group.technique and themes. International Journal of group Psychotherapy.1998;38,419-446.
47. van Laarhoven HW, SchildermanJ, Verhagen CA, Vissers KC, Prins J. Perspectives on death and an afterlife in relation to quality of life, depression, and hopelessness in cancer patients without evidence of disease and advanced cancer patients. J Pain Symptom Manage.2011; 41(6):1048-59.
48. Brallier LW. The suffering of terminal illness: cancer. NLN publications. 1992(15-2461):203.

Table 1: Holding group logotherapy sessions

Session process	
Logotherapy sessions	The content of the sessions
First session	Determining the goals and rules of the group, familiarity of group members with each other, and the definition of freedom as one of the dimensions of being: man is not fully controlled by the conditions. Finding meaning in work, love, and leisure time
Second session	Discussion on accepting the responsibility for planning and pursuing goals and expectations Anxiety as an integral part of being Assignment: We can rebuild and reduce life choices to reduce anxiety
Third session	Finding meaning through the creation of values, the discussion over the outline of illness and hope and meaningful life Assignment: Finding meaning in pain and suffering
Fourth Session	Finding meaning through the creation of creative values, meaning from the experience of values, criteria and hopes and dreams in life
Fifth meeting	Finding meaning through experiential and tendency values, finding meanings in disease, death, freedom, and so on (Accepting unchangeable aspects of life)
Sixth session	Assuming the responsibility for change, self-support, and trust and confidence and hope for the future and attention to values and desires in life
Seventh session	Encouraging members to support emotional support from each other, completing unfinished sentences such as (I feel bad when on the part of others
Eighth session	Continuing skills training, talking about group training and how to use it in the lives of members, summing up and summarizing sessions and ending up, and finally post-implementation

Table 2: Frequency of distribution of the subjects studied in the experimental and control groups based on demographic characteristics

Group Demographic		Experimental		Control		Total	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Gender	Female	3	15	5	25	8	20
	Male	17	85	15	75	32	80
Educational level	Illiterate	6	30	3	15	9	22.5
	Primary	3	15	6	30	9	22.5
	Guidance	5	25	6	30	11	27.5
	Diploma	4	20	4	20	8	20
	Academic	3	15	1	5	3	7.5
Marital status	Single	1	5	4	20	5	12.5
	Married	19	95	16	80	35	87.5
Residence	Village	14	70	12	60	26	65
	City	6	30	8	40	14	35
Occupation	Farmer	4	20	3	15	7	17.5
	Homemaker	3	15	6	30	9	22.5
	Employee	1	5	-	-	1	2.5
	Self-employed	8	40	6	30	14	35
	Shop keeper	1	5	1	5	2	5
	Unemployed	3	15	4	20	7	17.5

Table 3: Comparison of life expectancy in cancer patients in the experimental and control groups before and after intervention

Group / Demographic	Before intervention		Test result	After intervention		Test result
	Test	Control		Test	Control	

Life expectancy	47.45±4.8	44.45±6.67	P=0.11	51.95±4.12	45.15±5.45	P< 0.001

Table 4: Comparison of life expectancy in cancer patients in both experimental and control groups before and after intervention with paired t-test

Group / Demographic	Before intervention		Test result	After intervention		Test result
	Test	Control		Test	Control	
Life expectancy	47.45±4.8	44.45±6.67	P=0.41	51.95±4.12	45.15±5.45	P< 0.001

Table 5: Comparison of life expectancy in cancer patients in both experimental and control groups before and after intervention with covariance analysis

Group / Group	Before intervention	After intervention	Total
Trial	47.45±4.8	51.95±4.12	P < 0.001
Control	44.15±6.67	45.15±5.45	Eta = 0.32

Table 6: Comparison of death anxiety in cancer patients in both experimental and control groups before and after intervention with independent t-test

Group / Demographic	Before intervention		Test result	After intervention		Test result
	Test	Control		Test	Control	
Death anxiety	6.45±4.35	5.8 ± 3.72	P=0.58 F = 3.09	4.65±4.2	6.15±5.34	P = 0.24

Table 7: Comparison of death anxiety in cancer patients in both experimental and control groups before and after intervention with paired t-test

Group / Demographic	Before intervention		Test result	After intervention		Test result
	Test	Control		Test	Control	
Death anxiety	6.45±4.45	5.8 ± 2.72	P=0.67	4.65±4.29	6.36±5.34	P = 0.01

Table 8: Comparison of death anxiety in cancer patients in both experimental and control groups before and after intervention with covariance analysis

Group / Group	Before intervention	After intervention	Total
Trial	6.45±4.45	4.65±4.29	P < 0.01
Control	5.8± 2.72	6.36 ± 5.34	Eta = 0.27