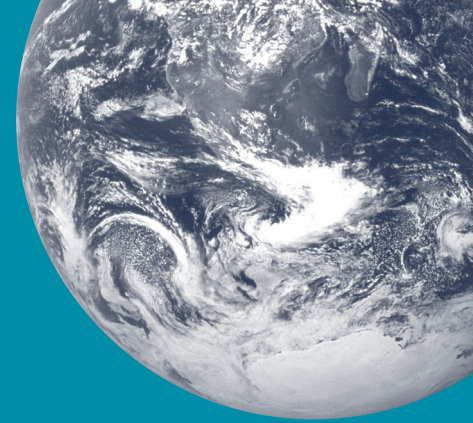




THE EFFECT OF LOGOTHERAPY ON DEPRESSION IN CANCER PATIENTS: A SYSTEMATIC REVIEW STUDY

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Abstract – Objective: To determine the effect of logotherapy factors on the severity of depression in cancer patients.

Materials and Methods: The present review study was conducted in 2017. In order to find evidence in this regard, the English-language and Persian-language scientific bases (PubMed, Elsevier, Science direct, SID, Google scholar, ProQuest) were searched for determined keywords such as Logotherapy (Depression or Depressive disorders) and (Cancer or Tumor or Neoplasm or Malignancy). Out of the 79 articles found after removing duplicate and non-related ones, finally, 6 articles were selected for the study process based on the inclusion criteria.

Results: Based on the results, in two studies from six obtained studies, intervention was done on patients with breast cancer and in another study was conducted on subjects with colorectal cancer under chemotherapy. The minimum and maximum number of logotherapy sessions was 8 and 10 sessions, respectively. The meetings also lasted from 45 minutes to 120 minutes. After intervention, depression significantly decreased in cancer patients.

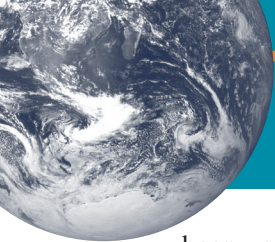
Conclusions: Logotherapy can play a significant role in lowering depression in patients with cancer. It is suggested that in order to have more effective sessions, the duration and number of logotherapy sessions could be determined according to the severity of depression and patient's condition.

KEYWORDS: Logotherapy, Depression, Cancer, Review.

INTRODUCTION

Cancer is one of the major problems of human societies¹, which has become an important health issue with an increasing number of patients worldwide². According to research results, the incidence of new cancer in 2008 was 7-12 million, which is expected to reach 22.2 million in 2030³. Physically, mentally and socially, cancer produces negative consequences for the patients and their relatives^{4,5}. Several factors, such as prolonged periods of treat-

ment, frequent admission and side effects of chemotherapy, have a significant effect on the mental health of patients with cancer⁶. Cancer patients often show significant symptoms of depression^{7,8}, so that 75% of the patients experience depression in the final stage of cancer⁹. Depression, as a negative factor affecting the treatment of cancer patients and their recovery⁶, can reduce welfare, quality of life¹⁰⁻¹², and the probability of survival can increase the risk of suicide¹³ in cancer patients. So far, many drug therapies^{14,15} and behavioral therapies^{9,16} have



been used to reduce the depression of cancer patients. Antidepressants are such kind of drugs but the majority of drug therapies leave adverse side effects on patients such as dependency, blood pressure changes, the weakening of vital signs, drowsiness, nausea, vomiting and even shock¹⁷⁻¹⁹. Considering that cognitive, behavioral and social factors have an important role in patients' confrontation with diagnosing and treating of cancer, many researchers have investigated the effects of psychological interventions on psychological adjustment of patients during treatment^{15,20-22}. Logotherapy is a kind of psychotherapy that helps people to find a way to reach the mental health by finding the meaning of life^{23,24}. Logotherapy is based on the idea that pain and suffering are an integral part of life, so there is meaning in them, and when personal suffering is meaningful, it will no longer be annoying^{25,26}. Achieving the meaning of life is possible by knowing three values: 1) the values of the constructs (what the individual offers to the world), 2) the empirical values (what the person has experienced in the world), 3) attitudinal values (the ability to change the attitude of the individual towards the unchangeable conditions)²³. Also, the basic principles logotherapy is that the main motive and purpose of life is not suffering or enjoyment, but the goal of living is to seek to understand the meaning of life²⁷. Creating meaning and logotherapy can be considered important in people's confrontation with life-threatening illnesses²⁸. Considering that recognizing depression and identifying the correct way to treat it are important aspects of care in cancer patients, logotherapy can be used as an effective way by mental health professionals along with other therapies to improve the depression of affected people. According to the available databases, a review study has not yet been published in this field to deal with the effects of logotherapy on depression. Therefore, the present study was aimed at reviewing and evaluating articles in order to determine the effects of logotherapy on depression in cancer patients and, consequently, to present an appropriate strategy to improve the depression of cancer patients.

MATERIALS AND METHODS

This study is a systematic review study that was conducted in 2017 with the aim of determining the effect of logotherapy on depression in cancer patients.

SEARCH STRATEGY

Researchers that were published in English and Persian with regards to the effect of logotherapy on the depression of cancer patients in data bases (Magiran,

SID, Medlib, Iranmedex, Google Scholar, Proquest, Elsevier, MEDLINE via PubMed, Science direct) were searched without time constraints, using keywords that were determined by two experts, in titles or abstracts of the articles using OR and AND operators' technique. The key words included: Logotherapy, Depression, Depressive disorders, Cancer, Malignancy, Tumor, Neoplasm. A review and re-search of resources and databases were carried out by one of the researchers to ensure that information and articles were searched adequately and thoroughly. Additionally, the Civilica Base was searched for papers presented at national and international congresses to enter the related articles into the study. Also, the IRANDOC database was searched for theses that might have been unpublished so that they could be included into the study if necessary.

INCLUSION AND EXCLUSION CRITERIA

The criteria for entering the study were the interventional papers published in Persian and English journals during the aforementioned years. Exclusion criteria involved articles that did not have full-text in Persian or English and articles in other languages in the databases.

PROCESS OF ARTICLES' SELECTION

After searching in databases and resources at the end of articles and removing duplicates, 71 articles were found, out of which 19 articles were excluded after screening the title, 30 articles were omitted after studying their abstracts, 16 articles were discarded after reviewing their full text and finally, 6 papers were considered eligible for inclusion criteria (Figure 1). Also, no new article was found in the manual search among the resources of articles obtained from the electronic search.

QUALITY ASSESSMENT

Quality was assessed independently by two authors using the Consort statement. For the CONSORT Statement items, the concept of "adequate" or "inadequate" was assigned, according to the description or not of each item in the checklist. Disagreements were resolved by discussion and, when necessary, by consulting a third review author. Finally, studies were excluded if the data were still insufficient after this process.

DATA EXTRACTION

To extract the data, a checklist of required information including name, year and type of study, sample size, age range of participants, type of intervention, the studied variables, the applied tools and the gained result, was designed. The data was first summarized in the data extraction table (Table I) and then it was analyzed manually.

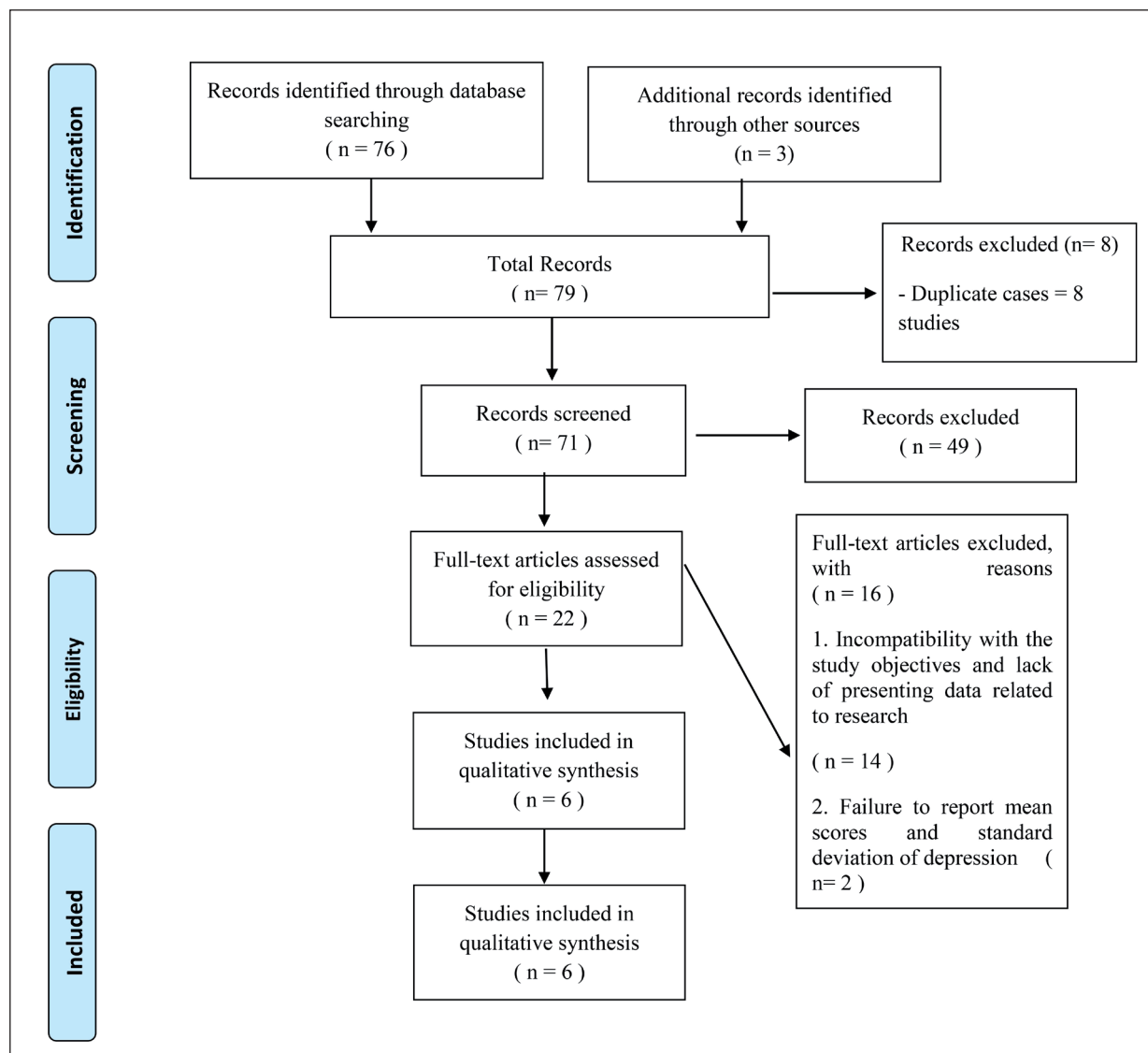


Fig. 1. Process of selecting articles.

RESULTS

The final obtained studies were included to the study in 2009 to 2014 with the aim of determining the effects of logotherapy on depression in cancer patients. The minimum and maximum sample sizes were 22 and 42 cancer patients, respectively. Based on the results, in two studies, intervention was conducted on women with breast cancer^{29,30} and in another study on subjects with colorectal cancer under chemotherapy³¹. Also, in three other studies, the type of cancer was not mentioned in patients who participated in the study³²⁻³⁴. The method of holding logotherapy sessions was group therapy. The minimum and maximum number of sessions were 8 and 12 sessions respectively. The duration of the meetings also varied from 45 minutes to 120 minutes. Patients' depression was

measured by high performance tools such as Beck Depression Inventory (BDI), Depression Anxiety Stress Scale (DASS), Symptom checklist- 90 and General Health Questionnaire (GHQ-28). In a general review of the articles according to the contents of Table I, the effect of logotherapy intervention on the depression of cancer patients was positive and significant. Other details of the articles are presented in Table I.

DISCUSSION

The purpose of this study was to determine the effect of logotherapy on depression in cancer patients. So far, several studies have been carried out to examine the effects of logotherapy on depression in cancer patients. The results reported logotherapy's



TABLE 1. Characteristics of the Included Studies (N=6).

Author (year)	Study design	Types of Intervention	Sample size (n)	Instruments	Results
Abolghasami et al ³² (2010)	Interventional	Logotherapy (10 session) Guided imagery (10 sessions)	42 women with cancer: $N_{(\text{logotherapy group})} = 14$ $N_{(\text{guided imagery group})} = 14$ $N_{(\text{control group})} = 14$	Beck Depression Inventory (BDI)	Pre-intervention (logotherapy group): Mean±SD= 30.40±6.26 Post-intervention (logotherapy group): Mean±SD= 14.20±3.26 Pre-intervention (control group): Mean±SD=26.70±5.42 Post-intervention (control group): Mean±SD= 30±5.16 Pre-intervention (guided imagery group): Mean±SD= 27.46±4.52 Post-intervention (guided imagery group): Mean±SD= 18.40±4.58 $p<0.001$
Haghighi et al ²⁹ (2012)	Quasi-experimental	Logotherapy (10 sessions, every session 2 hours)	22 breast cancer patients: $N_{(\text{experimental group})} = 10$ $N_{(\text{control group})} = 10$	Beck's Depression Inventory (BDI)	Pre-intervention (experimental group): Mean±SD=25.3±7.4 Post-intervention (experimental group): Mean±SD=8.3±4.7 Pre-intervention (control group): Mean±SD=26.1±7 Post-intervention (control group): Mean±SD= 26.9±8.1 $p<0.001$
Hamid et al ³³ (2011)	—	Logotherapy (10 sessions)	30 cancer patients: $N_{(\text{logotherapy group})} = 15$ $N_{(\text{control group})} = 15$	Beck's Depression Inventory (BDI)	Pre-intervention (experimental group): Mean±SD= 10.20±2.651 Post- intervention (experimental group): Mean±SD= 7±4.472 Pre-intervention (control group): Mean±SD= 7.93±2.017 Post-intervention (control group): Mean±SD= 11.80±2.833 $p<0.0001$
Hosseiniyan et al ³⁰ (2014)	—	Logotherapy (8 sessions, every session 2 hours)	30 women with breast cancer: $N_{(\text{logotherapy group})} = 15$ $N_{(\text{control group})} = 15$	Depression Anxiety Stress Scale (DASS)	Pre-intervention (experimental group): Mean±SD= 3.19±4.71 Post-intervention (experimental group): Mean±SD= 1.38±1.46 Pre-intervention (control group): Mean±SD= 5.69±6.65 Post-intervention (control group): Mean±SD= 5.87±6.28 $p<0.05$
Rezaei et al ³⁴ (2012)	Experimental	Logotherapy (10 sessions, every session 2 hours)	30 cancer patients: $N_{(\text{logotherapy group})} = 15$ $N_{(\text{control group})} = 15$	Beck's Depression Inventory (BDI)	Pre-intervention (experimental group): Mean±SD= 34.7±2.99 Post- intervention (experimental group): Mean±SD= 23.7±2.91 Pre-intervention (control group): Mean±SD= 35.40±2.92 Post-intervention (control group): Mean±SD= 34.33±3.37 $p=0.001$
Hosseinzadeh-Khezril et al ³¹ (2014)	Randomized clinical trial	Logotherapy (8 sessions, every session 2 hours)	35 patients with Colorectal Cancer undergoing chemotherapy: $N_{(\text{logotherapy group})} = 17$ $N_{(\text{control group})} = 18$	General Health Questionnaire GHQ-28	Pre-intervention (Treatment group): Mean±SD= 4.59±3 Post- intervention (Treatment group): Mean±SD= 3.12±2.88 Pre-intervention (control group): Mean±SD= 3.94±3.71 Post-intervention (control group): Mean±SD= 5.22±2.84 Pre-intervention (Follow-treated group): Mean±SD= 4.59±3 Post-intervention (Follow-treated group): Mean±SD= 31.43±12.54 $p<0.05$

significant positive effect on the depression of cancer patients, so that the logotherapy reduced depression in people with cancer. By reviewing the results of the studies obtained in accordance with Table I and based on the mean difference before and after the intervention, we found that intervention with logotherapy approach in the study of Haghighi et al²⁹ has been more effective than intervention in other studies. In the study of Haghighi et al²⁹, women with breast cancer were treated in group therapy for 10 sessions of 2 hours. In the previous study, the researchers found that after applying the treatment method and assessing the depression of the studied subjects by the Beck Depression Inventory, the severity of depression in the intervention group significantly decreased²⁹. In the study of Hamid et al³³, cancer patients were treated for ten sessions of logotherapy. The content of the sessions was designed on the basis of the existential approach, theoretical principles and therapeutic techniques of logotherapy and in the framework of the design plan of Anderson (2007), Blair (2004) and Hutzell (2002). After intervention, people were assessed by Beck's Depression Scale, which confirmed the positive results of logotherapy to reduce depression. On the other hand, Abolghasemi et al³², in another study on women with cancer, used two logotherapy interventions (10 sessions of 45 minutes) and guided visualization (10 sessions of 45 minutes) to reduce their depression that the content of the sessions was in accordance with the suggestions of the book "Man's Search for Meaning. In the previous study, after evaluating depression by Beck's Depression Inventory, researchers found that although both types of interventions were effective in reducing depression in cancer patients, but based on the results, logotherapy compared to guided visualization, has been more effective in reducing depression in patients. In another study, 10 two-hour sessions of logotherapy were used to improve the depression of cancer patients and positive results were presented to reduce the depression of affected patients³⁴. Also, two other investigations used eight sessions of two hours to reduce the depression of cancer patients that the evaluation of depression scores by means of the DASS and GHQ-28 scales showed a positive effect of logotherapy intervention on reducing depression in the affected individuals^{30,31}. The results showed that with a smaller sample size, better results were obtained to reduce depression, as in the findings of Haghighi et al²⁹, where the number of people in each group was considered 11 and the greater effect of logotherapy in this study was observed compared to other studies with a larger sample size. With a review of the literature, we found that although the number of sessions and the length of the sessions considered for each session were the same in most of the studies (in most studies, ten sessions

and each session was two hours), the effect of logotherapy on the severity of depression was different. It seems that the difference in the resources and selected books to formulate the content of the sessions, the difference in sample size, type of cancer and its stage, the type of instrument used to evaluate the depression in the patients participating in the study, are the possible causes of the difference in the results of these studies. Other important result obtained in these investigations has been holding logotherapy sessions in groups. Researchers believe that by logotherapy in group, better results can be obtained^{35,36}, as a group therapy provides opportunities for group members to acquire new social skills and behaviors, improve social relationships and learn from common experiences of other members of the group. These factors can lead to improvements in the treatment and improvement of psychological problems caused by individuals' diseases^{37,38}. The lack of access to all databases and the non-review of studies in other languages can be considered as limitations of the present study.

CONCLUSIONS

The results showed that logotherapy is effective in reducing depression in patients with cancer. The results of this study can be suggested for further and more comprehensive studies in order to investigate the effect of logotherapy on other psychological disorders and improve the quality of life of the cancer patients' community. In order to be more effective, the timing and number of sessions be determined depending on the severity of depression and patients' conditions.

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ETHICAL CONSIDERATIONS:

The project was found to be in accordance to the ethical principles and the national norms and standards for conducting Medical Research that has been approved by the research ethics committee (Ethics Committee approval: IR.MAZUMS.REC.1397.029).

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CONFLICT OF INTEREST:

The author(s) declared no potential conflict of interest with respect to the research, authorship, and/or publication of this article.



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