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The Effectiveness of Group-Based Compassion-Focused Therapy on Depression, Anxiety and Improving the Quality of Life in Women With Feminine Cancers

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Introduction: This study aimed to examine the effectiveness of group-based compassion-focused therapy (CFT) on depression, anxiety, and improving the quality of life (QoL) in women with feminine cancers.

Methods: A pretest-posttest control-grouped, quasi-experimental study was carried out on all women with cancer who were referred to the Omid Hospital of Mashhad in 2019. Thirty patients with various types of feminine cancers were randomly assigned to 12 weeks of group-based compassion-focused therapy (CFT) (n=15) or sham control (n=15). Participants in both conditions completed measures of Beck Depression Inventory-II (BDI-II), Beck Anxiety Inventory (BAI-II), and the European Organization for Research and Treatment of Cancer Quality of Life Questionnaire (EORTC QLQ-C30) at pretest and posttest. Analysis of covariance was used for data analysis

Results: Our results showed that there was a significant difference between experimental and sham control groups in depression ($F= 4/499$, $P<0.05$, $d=1.60$ large) and anxiety ($F=19/99$, $P<0.01$, $d=1.96$ large), but there was no significant difference in participants' QoL scale.

Conclusions: Group-based CFT could be considered a promising and potentially useful intervention to alleviate the depression and anxiety in cancer patients but it did not affect their QoL. Nevertheless, future randomized trials are needed.

INTRODUCTION

Cancer is a life-threatening disease the diagnosis and treatment of which may be stressful. Its common side effects, such as fear, loneliness, a permanent threat of death, relationship changes, tolerating painful medical processes, and an ambiguous future, may put patients under a great deal of stress [1]. The increase in cancer prevalence in recent years and its effects on physical, mental, and social aspects of life have made cancer the major health problem of the century [2]. Quality research on cancer patients' problems has shown that their psychological problems are estimated to be 8 times higher than healthy people [3]. Therefore, the impact of emotional, cognitive, and social feelings; caused by cancer symptoms, may be compounded with side effects of medical treatment, lead to inevitable negative effects on patients' psychological adjustment, and cause severe emotional and affective problems. On the other hand,

the development and expansion of human societies have highlighted the importance of quality of life (QoL). Surgical procedures and long-term intensive treatment (e.g. chemotherapy and radiotherapy) and the uncertainty that exists during the development of cancer can lead to some symptoms such as anxiety, fear, and depression [4]. Depression and anxiety can lead to lack of energy and interest in the treatment process and decrease in the QoL of cancer patients. According to World Health Organization (WHO), QoL refers to individuals' perceptions of their position in life in the context of the culture and value systems in which they live, and higher levels of QoL are the results of having more positive and better perceptions [5]. Furthermore, higher scores of depression and anxiety have been related to disease duration [2, 4]. The consequences of metastasis, loss of social activities, and disability are reported among the most important causes of depression among these patients. Since depression is an important risk factor contributing to decreased survival of cancer patients and an important factor in unsuccessful treatment, it seems that treating depression is essential as a component of the treatment plan of cancer patients, especially those with risk factors, and can play an important role in promoting their faster recovery [6]. Cognitive-behavioral therapies, focusing on mindfulness and compassion, are effective in controlling depression and anxiety in various clinical samples [5, 7]. In a study on the relationship between self-compassion and depression, a lack of self-compassion revealed to act as a vulnerability factor for depression. Also, results indicated that depressed individuals have lower levels of self-compassion in comparison to healthy controls [8]. Research has shown that self-compassionate individuals have fewer mental health issues than non-self-compassionate ones; for instant, people with low levels of depression and anxiety showed more self-compassion [5]. Self-compassion has been related to positive psychological abilities such as happiness, positivism, wisdom, curiosity, and inquiry as well as emotional intelligence. Compassion-focused therapy (CFT) teaches people not to avoid and suppress their painful feelings; so they can recognize their experience and be compassionate with it. This unified therapy is derived from neuroscience, social, developmental and Buddhist psychology, and many other therapeutic models of mental problems [9, 10]. CFT, along with other new therapeutic approaches of the Third Wave of psychology, is designed to alleviate suffering, anxiety, and depression [3]. In a study on CFT, Leaviss and Uttley found that the success of CFT depends on the right perception of the concept of compassion [11]. Compassion can be considered as an emotion regulation strategy, in which irritating and undesirable emotions not only are not avoided but are also accepted. Therefore, negative emotions may change into positive ones and individuals may find new coping strategies. In patients with mood disorders, self-compassion was related to higher levels of QoL and psychological well-being [12]. Self-compassion has been defined as a three-component construct, including self-kindness versus self-judgment, common humanity versus isolation, and mindfulness versus over-identification. Paul Gilbert, the founder of CFT [9], defines compassion as a basic kindness with a deep awareness of the suffering of oneself and other living things; coupled with the wish and effort to relieve it [13]. The basic principle of CFT implies that external thoughts, factors, images, and palliative behaviors should be internalized so that the human mind can relax in the face of these factors, in the same manner, it responds to external factors. Compassion-focused exercises emphasize relaxation, self-compassion, and mindfulness, which play a huge role in individuals' peace of mind, and alleviating stress and negative automatic thoughts [10]. There is ever-increasing empirical evidence on the effects of CFT on the whole range of psychological problems. In an early attempt to study CFT effects on patients attending a day center for chronic difficulties, Gilbert and Procter found that CFT reduced the shame, self-criticism, self-blame, depression, and anxiety [14]. In times of illness, higher levels of self-compassion are related to lower levels of negative emotions, anxiety, depression (e.g. in asthma and flu), and stress (e.g. in HIV positive), even in the elderly. A comparative study between healthy people and individuals with cancer or a chronic disease showed that, especially in cancer survivors, self-compassion is related to a better psychological adjustment [15].

A better understanding of the overall prevalence of mental disorders among cancer patients can help the identification of patients in need of psychological services, clarification, and facilitation of providing mental health services, and, eventually, improved accessibility of essential psychological care.

Research has shown that psychological intervention programs, especially when provided in groups, substantially reduced cancer-related psychological disorders, provided valuable social support, and increased coping skills [16]. Therefore, the present study examines the effectiveness of group-based CFT on depression, anxiety, and improving the QoL in women with feminine cancers.

METHODS

A pretest-posttest control-grouped, quasi-experimental study was carried out on all women with cancer who were referred to the Omid Hospital of Mashhad in 2019. The Ethics Committee of Mashhad University of Medical Sciences and Ferdowsi University of Mashhad (IR.MUMS.REC.1396.297) approved the study and informed consent was obtained from all patients who participated in the study. We used purposeful sampling for selecting patients. The sample size was calculated; using the G×Power (With an assumption of effect size (0.85 large), alpha=0.05 and power=0.80, with 2 groups and 1 covariate). A total of 31 participants were estimated to be included in the study to detect a large effect size (Cohen's d=0.85). A total of 50 patients were invited to participate in the study from which 34 cases met all the inclusion criteria. Therefore, 34 individuals were randomly assigned (simple randomization) to the group-based CFT and sham control group. Two people in each group did not complete the study. Consequently, the data of 30 individuals were analyzed. The eligibility criteria were as follows: (1) being a female; (2) having ovarian, uterus, cervical and/or breast cancer; (3) aged between 25 to 45 years; (4) minimum academic qualification of high school diploma; (5) no drug and/or alcohol abuse; and (6) not receiving any psychological treatment since the time of cancer diagnosis. Figure 1 summarizes participant enrolment the study process. Then, Beck Depression Inventory (BDI-II), Beck Anxiety Inventory (BAI), and the European Organization for Research and Treatment of Cancer Quality of Life Questionnaire (EORTC QLQ-C30) were completed by the participants in pretest and posttest evaluations. The groups lasted 3 months, with eight sessions lasting 90 to 120 minutes. The group-based CFT received 12 sessions of CFT per week, based on Gilbert's CFT protocol and the sham control group participated in 12 groups of discussion sessions. Therapy sessions were begun by expressing the purpose of the group and stating the problem and the role of positive psychological factors in cancer, introducing CFT and new psychological approaches to cancer treatment, and defining compassion and self-compassion. Then, the factors contributing to each participant's depression, anxiety and QoL were examined, which brought about intimacy and common sense. Over time, self-compassion topics and therapeutic techniques were introduced.

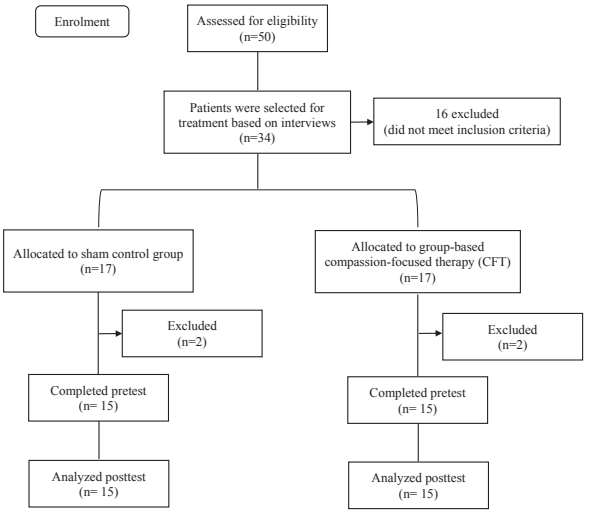

Figure 1: Flowchart of Participants in Study

Measures

Beck Depression Inventory (BDI-II): It is a 21-item, self-rated scale that evaluates key symptoms of depression including mood, pessimism, sense of failure, self-dissatisfaction, guilt, punishment, self-dislike, self-accusation, suicidal ideas, crying, irritability, social withdrawal, indecisiveness, body image change, work difficulty, insomnia, fatigability, loss of appetite, weight loss, somatic preoccupation, and loss of libido. Individual scale items are scored on a 4-point continuum (0=least, 3=most), with a total summed score range of 0–63. Higher scores indicate greater depressive severity. The following guidelines have been suggested to interpret the BDI-II: minimal range=0–13, mild depression=14–19, moderate depression=20–28, and severe depression=29–63. Dabson and Mohammadkhani assessed reliability; using Cronbach's Alpha, and reported coefficient alphas to be 0.92 for outpatients and 0.93 for the students. They also gained a test-retest coefficient of 0.73 within two weeks [17]. Beck Anxiety Inventory (BAI): It was created by Aaron T. Beck and colleagues which is a 21-item

multiple-choice self-report inventory that measures the severity of anxiety in adults and adolescents. The BAI describes the emotional, physiological, and cognitive symptoms of anxiety. Each of the items on the BAI is a simple description of a symptom of anxiety in one of its four expressed aspects: (1) subjective (e.g., "unable to relax"), (2) neurophysiologic (e.g., "numbness or tingling"), (3) autonomic (e.g., "feeling hot") or (4) panic-related (e.g., "fear of losing control"). Each item is scored on a 4-point Likert scale; ranging from 0 to 3. The total score is calculated by finding the sum of the 21 items. The scores are defined as follows: 0-21=low anxiety, 22-35=moderate anxiety, 36 and above=potentially concerning levels of anxiety. The BAI is psychometrically sound. Internal consistency (Cronbach's alpha) ranges from 0.92 to 0.94 for adults and test-retest reliability is 0.75. Our findings showed that the Persian version of BAI has a very good validity ($r=0.83$, $P<0.001$) and an excellent internal consistency (Cronbach's alpha=0.92) [18].

The European Organization for Research and Treatment of Cancer Quality of Life Questionnaire (EORTC QLQ-C30): It is a 30-item self-report questionnaire that specifically evaluates the QoL of cancer patients. This questionnaire has been developed by Aaronson and contains five functioning scales (physical, social, role, cognitive, and emotional functioning), eight symptom scales (fatigue, nausea/vomiting, pain, dyspnea, sleep disturbances, appetite loss, constipation, and diarrhea), financial impact, and the overall QoL. All of the scales and single-item measures range in score from 0 to 100, with higher scores representing a better overall QoL and greater symptom burden. Validation studies have reported this questionnaire to be a valid and reliable scale for evaluating the QoL of cancer patients in multicultural research situations. Moghimi Dehkordi and colleagues found that the third edition of the Persian version of EORTC QLQ-C30 is a valid and reliable instrument for evaluating the QoL of cancer patients and it can be used in clinical and epidemiological studies of cancer. The internal consistency of this scale has been reported to be desirable and most of its scales have desirable reliabilities. The Cronbach's alphas of the fatigue, pain, nausea/vomiting, and the rest of the scales are 65%, 69%, 66% and higher than 70%, respectively, which confirms its validity and reliability [19].

Statistical Analysis

We used an Analysis of Covariance (ANCOVA) to examine pre- and post-training changes in the BDI-II, BAI, and EORTC QLQ-C30 between groups. All analyses were conducted using SPSS (IBM SPSS Statistics version 21.0).

RESULTS

Table 1 shows the sociodemographic characteristics. Demographic information showed that, in the group-based CFT, 53%, 40%, and 6% had high school diploma, bachelor's degree, and master's degree, respectively; whereas, in the sham control group, 46% and 53% had high school diploma and bachelor's degree, respectively. Furthermore, in terms of the cancer type, in the group-based CFT, 40%, 26%, and 20% had ovarian, cervical, and breast cancers, respectively; while in the control group, 20%, 6%, and 75% had ovarian, cervical, and breast cancers, respectively. Moreover, in the group-based CFT, 26% and 73% were aged 25-35 and 36-45 years old, respectively; while in the control group, 33% and 66% were aged 25-25 and 36-45 years old,

Table 1: Sociodemographic Characteristics of Participants

	Group-Based Compassion-Focused Therapy (n=15)	Sham Control group (n=15)
Age, Mean±SD	37.20±1.59	37.40±1.15
Academic Qualification, No.(%)		
Diploma	8 (53.30)	7 (46.70)
Bachelors	6 (40.00)	8 (53.30)
Master's	1 (6.70)	——
Cancer Type, No.(%)		
Ovarian	6 (40.00)	3 (20.00)
Cervical	4 (26.70)	1 (6.70)
Womb	2 (13.30)	6 (75.00)
Breast	3 (20.00)	5 (40.00)

respectively. There were no significant differences between groups in all demographic characteristics.

To test the hypotheses, analysis of covariance (ANCOVA) was applied. We first examined the assumptions of normality and homogeneity of the variance-covariance matrix. To test for normality and homogeneity of variances, the Kolmogorov–Smirnov test, and the Box's M test were used, respectively. Results of the Kolmogorov–Smirnov test confirmed the data normality in the pretest and posttest (P>0.05). Furthermore, the results of the Box's M test were not statistically significant (P>0.05); confirming the above-mentioned hypothesis.

Table 2 shows the means and standard deviations for key variables. Results show that there is a significant difference between the group-based CFT and sham control groups in depression (F=4.499, P<0.05, d=1.60 large) with large effect size. Participants in the CFT scored significantly lower than those in the sham control group after being observed at post-intervention. In other words, compassion-focused group therapy affects symptoms of depression. Concerning our secondary outcome, significant differences were observed for anxiety. The result shows that there is a significant difference between anxiety scores of the CFTand sham control groups in the posttest (F=19/99, P<0.01, d=1.96 large) with a large effect size. These differences show that the mean of these scores in the CFT group is significantly lower than the sham control group. As Table 2 shows, no significant effects were found for QoL variable (P>0.05). However, group comparisons revealed significant pre- to post-improvements for QoL in the CFT group.

DISCUSSION

The current study aimed to examine the effectiveness of group-based CFT in alleviating symptoms of depression, anxiety, and the improvement of QoL in women with feminine cancers. We found that group-based CFT alleviated symptoms of depression in cancer patients. These findings are in line with previous findings [7, 11, 13, 14]. Results of systematic review and meta-analysis [7] indicated that self-compassion related therapies produced greater improvements in depressive symptoms. The results also showed that greater levels of self-compassion have been linked to reduced mental health symptoms such as depression. The results of other meta-analysis carried out by Leaviss and Uttley [11], showed that compassion therapy is an effective intervention for a range of mood disorders. A meta-analysis performed by Kirby et al., [13], has indicated that CFT reduces depression in various groups both with and without mental health conditions. Also, the results of research performed by Sadeghi, Yazdi-ravandi, and Pirnia [14] showed that compassion therapy had a significant effect on the reduction of depression symptoms in patients with breast cancer. Our results also showed that group-based CFT alleviated symptoms of anxiety in cancer patients. These findings are consistent with previous findings [3, 7, 11, 13-15]. Three meta-analyses [7, 11, 13] that have examined the effectiveness of CFT have shown that it improves the levels of self-compassion, as well as reduce anxiety, depression, and psychological distress in various groups. The overall consensus across these studies is that increases in self-compassion are related to improvements in psychopathology. Also, the results of two studies in Iran [3, 14] showed that CFT successfully reduces the levels of anxiety in women with breast cancer as compared with a control condition.

In patients with chronic diseases, an insecure attachment was correlated with negative emotions such as anxiety, stress, worry, depression, reduction of coping strategies effect, and low QoL [15]. CFT is based on the attachment theory, therefore this approach alleviates negative emotions via affecting the attachment system and moving it

Table 1: Means, Standard Deviations, and ANCOVA Statistics for Study Variables [a]

	Group-Based Compassion-Focused Therapy (n=15)		Sham Control Group (n=15)		F Statistic	P Value	Cohen's d
	Pretest Mean±SD	Posttest Mean±SD	Pretest Mean±SD	Posttest Mean±SD			
Depression	32.87±4.14	30.27±4.05	31.47±2.07	31.47±2.07	4.49	0.040	1.60
Anxiety	32.33±3.85	31.00±3.86	35.07±2.17	35.07±2.17	19.99	0.002	1.96
Quality of life	34.93±2.56	33.00±2.35	35.13±1.21	35.13±1.21	2.51	0.090	1.96

[a] d=0.20 is small, d=0.50 is medium, and d=0.80 is large

towards a secure one. Mindfulness and compassion both alleviate the effect of stress on depression through enhancing the feeling of security and confidence [20], self-compassion acts as a shield against negative events. People with high levels of self-compassion judge themselves less strictly, accept negative events more easily and their self-evaluations and reactions are more precise and based on their actual functions because their judgment neither tends toward an exaggerated self-criticism nor go towards self-defense inflation. Moreover, being present in the group and recognizing the commonness of experiences makes individuals feel connected to others, which, in turn, reduces their fear of loneliness and ambiguity in the face of cancer's pain and suffering. The mindfulness component of compassion keeps one's emotions balanced and leads to less rumination and negative feelings [5]. Our investigation also revealed that group-based CFT did not increase the QoL of cancer patients significantly. This finding is inconsistent with previous research that has shown that CFT could enhance the QoL. Research in the cancer context links greater self-compassion with a better QoL [5, 15]. Saidan, Sohrabi, and Zemestani indicated that CFT is effective on blood pressure and QoL in women with hypertension [5]. It has been hypothesized that this difference may be accounted for this reason that QoL is a subjective construct that depends on one's perceptions and appraisals. Since no inclusion criteria in terms of patients' cancer stage and perceptions of their care-givers' support and behavior were specified, human commonalities were less perceived which affected their appraisals of the QoL.

It is important to note several limitations to this study. First, the sample size was low so that the generalizability of the findings may be limited. Future studies with larger sample sizes are needed to replicate the results of the present study. Also, we do not know if the positive effects of this intervention will be sustained after the posttest period. Naturally, a longer follow-up period is recommended to assess the continued effectiveness of the treatment. Well-designed larger-scale trials with adequate follow-ups in different sex and age groups are suggested. Furthermore, since we used purposeful sampling, the exact generalization of these findings is not recommended. Finally, since patients of the current investigation were in different stages of treatment, future studies are needed to examine the impact of the treatment phase as an important variable. We recommend that cancer treatment centers integrate psychotherapeutic methods in their therapeutic strategies and programs.

In general, the findings of this study showed that group-based CFT could be considered a promising and potentially useful intervention to alleviate the depression and anxiety in cancer patients, but it did not affect their QoL. Nevertheless, future randomized trials are needed.

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CONFLICT OF INTEREST

The authors declared no conflict of interest.

ETHICS APPROVAL

The Ethics Committee of Mashhad University of Medical Sciences and Ferdowsi University of Mashhad approved this study (IR.MUMS.REC.1396.297).

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