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Comparing the effectiveness of behavioral activation group therapy and treatment based on acceptance and commitment on depression and quality of life of people with cancer

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ABSTRACT

Background and Aim: Cancer is a potentially fatal disease that is mainly caused by environmental factors and cellular mutations. The purpose of the present study is to treat behavioral activation and acceptance and commitment -based treatment (ACT) to reduce the severity of the symptoms of depression and improve the quality of life in patients with cancer. **Method:** The present study is applied in terms of the purpose and in terms of the method of a quasi-experimental section with pre-test-post-test design. The statistical population includes all people with cancer referred to the oncology departments of hospitals and clinics in Bushehr during the research. Of these, 30 are selected by available sampling methods and are randomly replaced in three groups (two experimental groups and one certificate). Each group consists of 10 people. After obtaining participants' satisfaction and adhering to ethics, Quality Questionnaires (Jenicson et al., 1) and depression (Beck, Stire and Garbin, 1) were executed as a pre -test on all participants. The first experimental group was trained in the behavioral activation protocol based on the Golan et al. (2003), the second group was under admission and commitment training based on the Hayez et al. All sessions of the experimental group were held through Skype due to the Cronist's conditions. **Results:** The mean difference of depression scores and quality of life was significant between both experimental groups with a testimony group (P <0.05); In other words, the effectiveness of both treatment in reducing depression was significant. However, the mean difference between depression and quality of life is not significant between either of the two methods (0.05). In general, the mean difference of depression and quality of life among behavioral activists and admission and commitment therapy were significant in both postgraduate and follow -up stages (0.05). **Conclusion:** It can be concluded that group therapy of behavioral activation and therapy based on acceptance and commitment is effective on depression and quality of life with cancer and can be used to reduce the psychological problems of patients with cancer patients.

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Introduction

Cancer is the second leading cause of death in the United States. About half of American men and one-third of American women will experience cancer in their lifetime (American Cancer Society, 2014). In Iran, cancer is the third cause of death, and stomach cancer is considered the most deadly (DeSantis, Lin, Mariotto, Siegel, Stein, Kramer, Alteri, Robbins, and Jemal, 2014). Systems theory predicts that major events, such as severe illness, affect the individual, family, and social networks. Such an important issue can lead to sad changes in relationships, roles, and mental health in cancer patients and their families. Cancer survivors and their families often experience anxiety, stress, and depression. Many studies have shown that the parents of cancer patients experience more pressure and stress than the patients themselves, and there is a high correlation between the emotional pressure of patients and their parents (Sergin, Badger, Meek, and Bonham, 2006).

Cancer destroys the patient's life and negatively affects various aspects of the quality of life, including mental, psychological, social, economic, and sexual performance. In addition to the harmful effects of this disease on the quality of life, the high prevalence of fear, anxiety, and depression in cancer patients is another psychological problem of this disease. A cancer diagnosis is a very unpleasant and unbelievable experience for any person. There are different views on informing patients about the diagnosis and confronting patients with cancer during the diagnosis. There is still no consensus in this field in different societies. The worry of creating fear, anxiety, and despair in patients following a cancer diagnosis makes even doctors and nurses avoid doing this, despite the desire to inform patients of the diagnosis (Esmaili et al., 2016). Immediately after the cancer diagnosis, anxiety, depression, and other mood disorders may occur in patients. Women with significant symptoms of recurrent depression and anxiety often experience increased physical complications, have difficulty managing these side effects, and may experience an overall reduced quality of life. In fact, what reduces the quality of life in cancer patients is not only the physiological changes created during the disease. Mental-psychological status, the person's reaction to the results of diagnostic tests and disease prognosis, and stages of sadness, grief, and anger all affect the patient's quality of life and depression. Various studies have shown that these patients have many psychological, social, and support needs after being diagnosed with the disease.

Behavioral activation therapy is a type of pure behavioral therapy based on the functional analysis of behavior and is rooted in the behavioral theory of depression (Jacobson, Martel, and Dimijian, 2001). The effectiveness of this treatment has been proven in numerous studies, and it is superior to cognitive therapy and drug therapy in the treatment of severely depressed patients (Dimijian et al., 2006). This therapy can also be implemented in a group (Gollan, Atlis, and Marlow-O'Connor, 2003; Porter, Spates, and Smitham, 2004).

During the last two decades, several psychotherapy approaches have been developed under the third wave of behavioral therapy, among which we can mention treatment based on acceptance and commitment. In fact, acceptance and commitment therapy is one of the many forms of cognitive-behavioral therapy. While the cognitive-behavioral protocol focuses on the primary strategies based on change, the ACT protocol focuses on clarifying goals and values and emphasizing an interest in experiencing all emotions and situations, i.e., primary acceptance-based strategies. Acceptance and Commitment Therapy stems from this important message: "When you accept something outside your control, you commit to actions that can improve your quality of life. This treatment aims to help people create a meaningful and fruitful life if it effectively deals with manipulating and changing the pains and stresses that are inevitably introduced in life (Esmaeili et al., 2013). Acceptance and commitment therapy is based on the theory of dialogic communication framework. The main goal of this approach is to increase flexibility with the help of six main processes: 1. Acceptance, cognitive breakdown or diffusion, connection with the moment of life, self as, clarification of values, context, and commitment/adherence. These six domains can be characterized as processes that align with psychological flexibility (Hayes et al., 2006). According to the above topics, the researcher intends to investigate whether behavioral activation group therapy and acceptance and commitment-based therapy (ACT) can have an effect in reducing the severity of depression symptoms and improving the quality of life in cancer patients.

Method

The current research is an applied study in terms of its purpose. In terms of method, it is a quasi-experimental cross-sectional study with a pre-test-post-test design. The statistical population includes all cancer patients referring to the oncology departments of hospitals and clinics in Bushehr during the research. Of this number, 30 people were selected by the available sampling method and replaced randomly in three groups (two experimental groups and one control group). Each group consists of 10 people. After obtaining the consent of the participants and following the ethical principles, quality of life and depression questionnaires will be administered to all participants as a pre-test. Then the subjects of the two experimental groups are treated. Due to the corona situation, all the meetings of the experimental group are held via video call and Skype. The first group is behavioral activation group therapy, offering ten sessions once a week for 90 minutes. The second group is acceptance and commitment therapy, providing six group sessions once a week for 90 minutes. At the same time, the control group did not receive any intervention. The questionnaires were administered again as a post-test on all groups.

Tools

1. SF 36 Quality of Life Questionnaire: This questionnaire was prepared by the International Quality of Life Survey Organization containing 36 items in two main physical and mental areas, which measures eight subscales related to health: Physical performance: includes 10 questions (3, 4, 5, 6, 7, 8, 9, 10, 11, 12), physical pain: includes 2 questions (21, 22), low performance: includes 4 questions (13, 14, 15, 16), general health: includes 5 questions (1, 33, 34, 35, 36), vitality: includes 4 items (23, 27, 28, 30), social functioning: subscale 2 is a question (20,32), emotional role: includes 3 questions (24,26,31) and mental health: subscale has 5 questions (2,17,18,19,25,29). This scale includes scores from 0 to 5. In 11 questions of the questionnaire, a score of zero indicates the worst, and a score of 5 indicates the best possible state for the individual. In the other 25 questions, a score of zero indicates the best possible state for the individual. Therefore, the order of measurement scale in 11 questions (1, 2, 20, 21, 22, 23, 26, 27, 30, 34, 36) has a direct relationship with the score related to measuring the overall quality of life and in the other 25 questions. It has an inverse relationship. The overall score of the questions is from 0 to 100, and depending on the answers of the people, the level of quality of life is favorable (between 71 and 100), somewhat favorable (between 31 and 70) and unfavorable (between 0 and 30). In the study of Jennickson et al. (1993), the internal consistency coefficients of the eight subscales of SF36 were reported between 0.76 and 0.90. Cronbach's alpha coefficients were obtained between 0.77 and 0.90. Convergent validity was used to determine its validity, and the range of coefficient changes was obtained from 0.58 to 0.95.

2. Beck Depression Questionnaire: This test, with emphasis on two cognitive-behavioral dimensions, includes 21 questions that are completed in the form of self-report, and each index of the Beck test is scored with four answers: zero, 1, 2, and 3, where a score of zero indicates It indicates no disorder and score 3 indicates the most severe state of disorder and the total score of the test varies from 0 to 63. For the analysis, the scores of people together and those with 0 to 9 are considered without depression, 10 to 18 with mild depression, 19 to 29 with moderate depression, and 30 to 63 with severe depression. The reliability of this test is 0.87 (Beck, Steer, and Garbin, 1998). Stephen Dobson, Mohammad Khani, and Masah Cholabi (2007) rated the validity and reliability of the questionnaire as 0.88 and 0.83, respectively.

Results

The mean (standard deviation) age in the behavioral activation therapy group was 42.86 (7.91), in the acceptance and commitment therapy group 41.01 (7.24), and in the control group was 44.19 (7.56). According the results of the average scores of cancer patients in the depression variable, in the two groups of behavioral activation therapy (BAT) and acceptance and commitment therapy (ACT) in the post-test and follow-up phase, compared to the average of these scores in The control group and the pre-test stage are lower. Furthermore, the average scores of cancer patients in the variable of quality of life in all treatment groups in the post-test and follow-up phase are higher than the average in the control group and the pre-test phase. In the same way, there are differences between the average scores of the treatment groups in the variables of depression and quality of life in the post-test and follow-up phases.

As the results showed, the main effect of time has become significant with all epsilons. In other words, the difference in the average scores of the participants of the experimental groups, in the

variable of depression, from pre-test to follow-up is significant (P<0.05, F=27.76). The eta square of 0.43 indicates that 43% of the variance changes were due to the main effect of time (pre-test, post-test, and follow-up). In other words, the scores of the participants of the experimental groups compared to the control group were significant in depression from pre-test to follow-up. The eta square of 0.40 also indicates that 40% of the variance changes were caused by the interaction effect of time*group (various test stages and group membership). Finally, the results of the analysis of variance using the repeated measurement method to investigate the main effect of the group, i.e., the comparison of the mean depression scores in the experimental groups (behavioral activation therapy and acceptance and commitment therapy) and the control group show.

The analysis of variance with the repeated measurement method to investigate the group's main effect indicate a significant difference between the mean scores of depression in the experimental and control groups (P<0.05, F=11.62). The effect size of 0.49 for the depression variable indicates that 49% of the difference in the scores of the test and control groups is due to group membership (the effect of behavioral activation therapy and acceptance and commitment therapy).

The main effect of time is significant with all epsilons. In other words, the difference in the average scores of the participants of the experimental groups, in the quality of life variable, from pre-test to follow-up is significant (P<0.05, F=48.37). The eta square of 0.57 indicates that 57% of the variance changes were due to the main effect of time (pre-test, post-test, and follow-up). In addition, the results indicate that the interaction effect of time with the group in the quality of life variable (P<0.0001, F=8.70) is significant. In other words, the scores of the participants of the experimental groups were significant compared to the control group, in the quality of life variable, from pre-test to follow-up. Eta square 0.42 also indicates that 42% of variance changes were caused by the interaction effect of time*group (various stages of the test and group membership) .

The analysis of variance with the repeated measurement method to investigate the group's main effect indicate a significant difference between the average scores of the quality of life in the experimental and control groups (P<0.05, F=3.91). The effect size of 0.25 for the quality of life variable indicates that 25% of the difference in the scores of the experimental and control groups was caused by group membership (the effect of behavioral activation therapy, and acceptance and commitment therapy). However, to determine which of the groups this difference was significant, it is necessary to use Tukey's post hoc test. According to the results, the difference between the average scores of depression between both test groups and the control group is significant (P<0.05); In other words, the effectiveness of both mentioned treatments in reducing depression is significant. However, the difference in mean scores of depression is not significant between any of the two treatment methods (P>0.05). In general, the difference in the average quality of life scores between the treatment groups of behavioral activation and acceptance and commitment therapy, in both the post-test and follow-up stages, is significant compared to the pre-test (P<0.05).

Conclusion

The results of repeated measures analysis of variance to test the main research hypothesis showed that both therapeutic interventions significantly affect depression and the quality of life of people with cancer. In other words, behavioral activation group therapy and acceptance and commitment therapy can reduce depression and increase the quality of life of people with cancer. Mindfulness is one of the key concepts in third-wave treatments, including ACT and MBCT, which, according to studies results, can play an important role in managing cancer stress, reducing psychological suffering, and improving patients' quality of life (Fish et al., 2014). Mindfulness takes a step away from all thoughts, both positive and negative, and teaches the patient that thoughts are thoughts and not reality. Thoughts cannot be completely controlled. All that can be done is to look at the thoughts and distance them and stop reacting spontaneously to thoughts. The more one can do this, the more in control one feels. When the patient understands the feeling of deep peace resulting from mindfulness in the depth of his being, he will no longer ask himself what the meaning and purpose of life are. He will clearly understand that peace, love, and joy are all within him. He will find that all the sufferings, pains, and sorrows in the world are because humans have deprived themselves of understanding and using this inner source of peace, love, and happiness. He will understand that the bad and

unpleasant feelings that sometimes overwhelm him are due to seeing the world through the wrong windows. When he realizes that his goal is to access deeper resources within himself, not only for himself but for all the people around him, then life will find a beautiful and deep meaning for him, and he will feel better (Fish et al., 2014).

Finally, one of the important factors that can be considered in explaining these results is the group method of psychological interventions, which, in addition to its cost-effectiveness, provides the opportunity for emotional discharge, a sense of acceptance, altruism, refinement, belonging, empathy, interaction, and integrity. It provides realism and many of the advantages of group therapy for clients, and in this way, it can effectively increase their emotional and social support resources. In fact, patients with more emotional and social resources have more self-confidence and self-esteem and suppress their emotions less (Taylor, 1991). As a result, they will be more receptive to unpleasant feelings and able to deal with their illness.

It is suggested that in future studies, researchers should investigate the effectiveness of the mentioned treatments on other psychological factors such as hope, psychological toughness, acceptance of pain, fear of cancer, and death anxiety. It is suggested that if the conditions are available, educational and therapeutic sessions will be held in person. Teaching these types of psychological interventions to nurses and psychiatrists working in hospitals and treatment centers for people with cancer can bring great help in improving depression and increasing the quality of life of patients. Considering the many problems of cancer patients and injuries caused by it on the patient's mental health, and even the acquaintances and people around these patients, it is suggested to use psychological interventions such as behavioral activation and acceptance and commitment therapy as complementary treatment programs to improve patients' moods and quality of life in medical centers and hospitals .

Finally, considering the necessity of implementing and confirming the effectiveness of the aforementioned psychological interventions, it is suggested that hospitals and medical centers provide the basis for reducing depression and increasing the quality of life of these patients by employing trained clinical psychologists and implementing these psychological interventions.

Conflict of Interest

According to the authors, this article has no financial sponsor or conflict of interest.

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