

The Effective Ness of cognitive Group Therapy Based on Mindfulness on Rumination and Psychological Well-Being of Cancer Patients

Milad Majdpour¹, Mojtaba Hashemzadeh², Sajad Zaree Sarasyabi³, Salar Dousti⁴, Abdullah Dindarloo^{5*}

¹Department of Psychology, Garmsar Branch, Islamic Azad University, Garmser, Iran

²Department of Psychology, Arsenjan Branch, Islamic Azad University, Arsenjan, Iran

³Department of Psychology, Kermanshah Branch, Islamic Azad University, Kermanshah, Iran

⁴Prevention Critic of Behzisti, Kermanshah, Iran

⁵Department of Psychology, Bandar Abbas Branch, Islamic Azad University, Bandar Abbas, Iran

*Corresponding Author Email: dindarloo@Gmail.com

ABSTRACT: The present research was conducted with the aim of studying the effectiveness of group-therapy recognition based on mindfulness on rumination and psychological well-being of cancer patients. The method of this research was semi-experimental with two pretest-posttest groups and with experimental and control group. The questionnaires of rumination of Nolen-Hoeksema and psychological well-being of Ryff were used to measure variables. The statistical sample of this research consisted of 40 cancer patients who were hospitalized in the treatment unit and care of cancer patients of Amirshahr hospital in Shiraz and they were selected in the method of random sampling and they were appointed in two experimental and control groups. Then, mindfulness-based therapy recognition program has been applied as the independent variable, during 8 sessions of 90 minutes and within two months on the experimental group. To analyze the data, multivariate analysis of variance (MANCOVA) was used. The results showed that there was a significant difference between the scores of experimental and control group ($F=1011.49$, $p<0.001$). This result shows that group-therapy recognition based on mindfulness on reducing rumination of cancer patients has been effective. Also, the results show that there is a significant difference between the scores of experimental and control group ($F=279.69$, $p<0.001$). This result shows that group-therapy recognition based on mindfulness on increasing psychological well-being of cancer patients has been effective.

Keywords: Mindfulness-Based Group-Therapy Recognition, Rumination, Psychological Well-Being.

INTRODUCTION

Cancer which is a term that encompasses more than 200 neoplastic¹ diseases has a long history. Cancer is the second leading cause of death after cardiovascular diseases in America and the third leading cause of death in Iran.

¹. Neoplasms or tumor are abnormal mass of tissue originating from neoplasia that the growth is more than normal tissue growth around. Neoplasms may be due to benignant, precancerous, Carcinoma in Situ (pre-cancer) or malignant (cancer) neoplasia.

Cancer threatens independence and ability of an individual to play an important role in family and society and directs the person into the feeling of lack of competence and self-confidence. Therefore, reducing sense of self-esteem in cancer patients is important and predictable which can result in the incidence of reactivity, such as depression, anxiety, fear and self-hatred. Cancer as a social phenomenon disturbs the person daily functions and social activities and changes his abilities to do common roles and responsibilities so that new roles are created. The nature of these roles can be a feeling of incompetence and social isolation. In fact, diagnosis of cancer in the persona of the crisis is consequently caused, confidence is compromised, personal communication is disrupted due to uncertainty about the future, backward compatibility mechanisms are inadequate and frequent hospitalization induces the sense of loneliness of the patient that all of these cases result in psychological stress in the person and double the risk of depression in the patient. America Cancer Society researchers through studying the patients with cancer reported that precipitating psychological factors in this group of patients included anxiety, anger, fear, depression, mental confusion and emotional stress. These researchers said that by using psychological treatments can reduce the severity of the precipitating factors (Setin et al., 2009). One of the problems that cancer patients suffer from it is rumination. Rumination represents the thought which tends to be repeated and it is knowingly and focuses on a subject and even in the absence of urgent environmental stimuli, these ideas appear again (Martin & Tesser, 1999). Atkinz et al (2005) consider rumination as the thought related to feeling of sorrow and this is referred to as rumination of sorrow. One of the other important issues that should be considered in patients with cancer is psychological well-being. Psychological well-being is a range topic of the phenomena that emotional responses of people, territory and overall assessment of life satisfaction are included. Mental well-being has several emotional and cognitive components. People with a feeling of high well-being experience positive emotions and they have a positive assessment from the events of their lives while people with lower psychological well-being have an adverse assessment from the events of their lives and they experience more negative emotions such as anxiety, depression and aggression (Diner et al., 2003). Psychological well-being is a psychological component of the quality of life which is defined as people's perception of their own life in the area of emotional behaviors and psychological functions and dimensions of mental health and includes two components. The first part of it is the moral judgment about how people in their lives are in progress while the second component includes the level of pleasant experiences. Personal welfare has seven important territories that include: 1- life standards; 2- health; 3- success in life; 4- safety; 5- kinship; 6- social interactions and 7- safe future. These valuable realms cooperate in mental and physical understanding from people and identifying the components of public personal well-being. Psychological well-being represents that what a sense people have from their own and includes emotional responses of people, life satisfaction and judging the quality of life. Psychological well-being is an important building which in the low level results in depression and social isolation and leads to the lack of a sense of satisfaction and self-confidence and a sense of lack of will or purpose in life and results in reducing mental and physical health (King et al., 2006). One of relatively new psychological treatments which in the past few years have been used in treatment of patients with cancer is mindfulness-based cognitive therapy. Patients using mindfulness-based cognitive therapy learn skills that to judge and blame themselves, which they are fuel and supplying the negative thoughts, have less power, authority and value and to these cases respond with kindness and acceptance (Kueken et al., 2010). Mindfulness training follows the reduction of psychological distress and symptoms of anxiety and depression and results in improving mental, physical, emotional and spiritual well-being, improving sleep quality and reducing physical symptoms (Kieviet-Stijnen, 2008). The goal of mindfulness is to change the style of thinking in the way of "being". In this therapy method, the goal is to be taught the method to the patients so that they can face with their thoughts and experiences differently (Caren, 2009). In an analysis, Batnik et al (2013) concluded that the effectiveness of mindfulness based on mindfulness-based cognitive behavioral therapy was without judgement on reducing the current rate of depression by reducing worry and rumination and increasing the skills of mindfulness admission. The experiences which the patients had in mindfulness-based cognitive behavioral therapy were immediate positive emotions, more powerful perception, and more responsiveness to the pleasurable activities of life. These changes will lead to a relative decrease of worrying and rumination. Both changes in thoughts and emotions lead to a reduction in depressive symptoms. Also, the results of the research of Ulrich (2011) have shown that mindfulness reduces rumination and this is related to high levels of experience of thoughts and increase of awareness and is more effective in reducing ruminating thoughts of relaxation techniques and this was effective in maintaining a stable condition after recovery in anxiety disorders and schizophrenia. Fejurik et al (2002) through an analysis of 21 controlled trials which they assessed the effectiveness of reducing stress based on mindfulness and mindfulness-based therapy recognition found that mindfulness-based therapy recognition resulted in reducing stress, anxiety, aggression etc., in most studies and improved mental health compared with the control group. Way et al (2010) found in a study that Amigdal reactivity of the participants has positively been related to self-reported depressive

symptoms and negatively with self-reported state of mindfulness when looking at the figures showed that emotional affectation.

In the study of Mania and Gavacker (2012), mindfulness-based therapy recognition was compared to cognitive therapy on two groups of non-melancholic depressed patients who spend a period of depression. The results showed a significant decrease in anxiety and depression scores in both groups and without the significant difference between the two methods. However, the results in patients were true, 4 periods or less from depression in the past had elapsed. For patients with a history of more than four periods of depression, therapy recognition was known effectively compared to mindfulness based therapy recognition. Given the above, the main issue of this study is that whether group-therapy recognition based on mindfulness on rumination and psychological well-being of cancer patients is effective.

MATERIALS AND METHODS

The present research is a semi-experimental study. The research design consists of pretest-posttest design with a control group which is composed of two triable groups and both of them are assessed twice. The statistical sample of this research consists of all cancer patients who were hospitalized in the treatment unit and care of cancer patients of Amirshahr hospital in Shiraz in 2017-2018. Using purposive sampling method or available from patients with cancer who were hospitalized in the treatment unit and care of cancer patients of Amirshahr hospital in Shiraz, according to the criteria considered, 40 people of these patients were selected and they were divided into two experimental and control groups (20 people for each group). Then, the questionnaires of rumination and psychological well-being were taken from both groups. Experimental group received mindfulness-based therapy recognition in the group method in 8 sessions of 90 minutes for two months and control group did not receive any training during this period.

Inclusion criteria

Some of inclusion criteria of the sample into the study were:

1. Cancer patients
2. High rumination diagnosis and low psychological well-being using standardized test
3. Informed consent of the therapy method and research process and emphasis on treatment and confidentiality
4. Age (20 to 40 years)

Method of studying

For the present study, referring to the treatment unit and care of cancer patients of Amir shahr hospital in Shiraz and coordination with the relevant authorities, about the importance of the research, the necessary information was available. Then, the list of all cancer patients was obtained. Then, they were requested a cooperation and after obtaining informed consent and emphasizing the confidentiality of information for the research, a description of the meetings and others were informed them. Then, randomly, from the clients who were eligible, 40 people of these patients were selected randomly. They were divided into two experimental and control groups (20 people for each group). Then, the questionnaires of rumination and psychological well-being were taken from both groups. Experimental group received mindfulness-based therapy recognition in the group method in 8 sessions of 90 minutes for two months and control group did not receive any training during this period.

Research instrument

Response Style Questionnaire

The most important means of measuring response styles depression is response style questionnaire. This questionnaire is planned to measure the propensity to respond in the face of depression and in which participants will be asked to state what they do when they are depressed (Nolen-Hoeksema et al., 1994). The response style questionnaire has an option and this is used to identify the use of four kinds of contrastive strategy, "problem solving, distraction, and rumination and use of dangerous activities" which they are used in response to depressed mood of the people (Fersko et al, 2002). In recent years, due to the low level of credibility and reliability of the subsidiaries of problem solving and application of dangerous activities of "response style questionnaire, the

researchers prefer to use only subscales of rumination and distraction of this questionnaire (Tames & Branigan, 2007). Fersko et al (2002) have estimated the internal reliability of scales of response style questionnaire about 0.89% and Nolen-Hoeksema et al (1994) have estimated the internal reliability of scales of response style questionnaire about 0.90% in another study and finally, in more recent research that has been done in this area, the internal reliability of scales of response style questionnaire has been estimated about 0.91%.

Psychological Well-being Scale

Psychological well-being scale was designed by Ryff in 1980. The main form contained 120 questions but in later studies, shorter forms of 84 questions and 18 questions were also proposed. Ryff and Keys (1995) performed the questionnaire of psychological well-being of Ryff (1989) on a group of 1108 people from people of 25 years old and more. The analysis of the factors confirmed and supported this questionnaire of six dimensions. Psychological well-being questionnaire reliability coefficients were calculated 0.91% from two methods of Cronbach's alpha and coefficient of internal consistency in this study. In this study, the internal consistency coefficient of the questionnaire was calculated to separate subscales which were as follows:

Autonomy (75%), dominance on environment (75%), personal growth (61%), positive relation with others (71%), purposeful life (72%), self-acceptance (78%)

The form of 84 questions was translated by Dr. Bayani et al in 2007 and the validity and reliability were then run on a group of students.

To calculate the reliability scale of RSPWB, two test-retest and internal consistency methods were used. In determining two months of retest with two months of reliability coefficient distance, 82% for total scale and for the scales of self-acceptance, positive relationship with others, autonomy, dominance on environment, purposeful life and personal growth were obtained 71%, 77%, 78%, 77%, 70% and 78%, respectively. For internal consistency, Cronbach's alpha was used that alpha coefficient of 89% was obtained. These coefficients were 59.66, 0.0, 0.65, 0.75, 0.57 and 0.76 for subscales of self-acceptance, positive relationship with others, autonomy, dominance on environment, purposeful life and personal growth, respectively. The validity of RSPWB was calculated by using structure validity, by running the scale of SWLS, the questionnaire of OHI, the questionnaire of RSES and correlation of subscales with each other and with the original scale. The correlation between the scale of RSPWB and SWLS, the questionnaire of OHI and the questionnaire of RSES was obtained 0.48, 0.58, and 0.17, respectively. Internal solidarity of the scores of psychological well-being scales with each other and with the whole scale is provided. The correlation of subscales with each other and with the whole scale is from 0.57 to 0.85. The correlations are statistically significant ($p<0.001$). Subscales correlation is statistically significant except the correlation between dominance on environment and self-acceptance ($p<0.001$). Each factor includes 14 questions in the form of 84 questions. After readying the questions, the participant should show his opinion on one of the six options, completely disagree completely agree. For each question, the scores one to six are given. A higher score indicates better psychological well-being.

Mindfulness-based therapy recognition training program

First session

In the first session, first, some general principles are performed which there are in all programs, such as, the familiarity of people with the class, introduction and acquaintance of members with each other, group legislation and regulation. Then, for practical familiarization of the cancer patients with the concept of mindfulness and understanding how it works, a simple exercise entitled "practice of eating raisins" is used and after that, the experiences of the patients in the practice are discussed so that the concept of being in the present moment and focusing on the activity done now, can be understood and experienced for people tangibly. Then, the practice of physical checking is done. At the end of the meeting, speaking about the work week ahead is also discussed and assignments will be trained with examples. Finally, the session is ended with a focus on breathing exercises which are the basic techniques of therapy method. Also, the pamphlet prepared by the researcher on the subject of mindfulness to the participants was given.

Second session

Second session includes practicing the techniques of physical checking, reviewing homework before meeting, identifying thoughts and feelings and relationship between the two to the cancer patients and training recording favorable events of daily life. Providing homework after meeting with a focus on breathing exercise and physical checking and generalization of learned mindfulness to daily routine activities will also be contained.

Third session

This session includes the practice of technique "seeing" and "hearing" and also sitting in meditation and awareness of the body and breathing, as well as strong physical feelings, and practice of the skills taught. Review of homework of the previous session and also the practice of breathing is the parts of this session. In addition, training the focus on body movements for conscious mind, walking conscious mind and preparing a table of adverse events and providing new homework were other parts of the session.

Fourth session

This session in a component is such as the practice of "seeing" and "hearing" and sitting in meditation for mindfulness to voices and thoughts, similar to the third session. In addition, introducing the realm of depression, worry and rumination to the participants are other discussions of this session. Breathing exercise is performed at the end of the session. Also, the pamphlet prepared by the researchers about the variables is given to the participants.

In general, the overall objectives of the first four sessions can be summarized in the form of the following:

- Explaining on the presence importance at the moment and being here and now, and describing the concept of mindfulness for members using several techniques, and learning routines according to them;
- Understanding the mind of wandering and exercise of focusing on the body, a physical feeling and focusing on the breath;
- Calming the mind of wandering and learning without escaping and staying away from thoughts, being at the moment and observing volatility of the thoughts.

Fifth session

The following cases will be conducted in this session: sitting in meditation, body awareness, sounds and thoughts and focusing on this point that how we interact with our experiences through reaction to the thoughts, feelings and our physical senses and what difficulties brings for us this style of treatment with the experiences and what effect has on the body. In addition, breathing exercises, review of previous homework and reading a poem with the content of mindfulness are other sections for this session which rich literature of Persian poetry can be used in Iranian culture.

Sixth session

In this session, in addition to the sitting meditation which the aim is to deal with the thought merely as thought and not fact, some practices for changes in thoughts and mood states, to cancel creating a vicious circle and thinking and finding a different way to interact with thoughts and not merely direct response to them are trained.

Seventh session

Sitting in meditation and review of previous exercises, exercises to explore the relationship between activity and mood, compiling a list of enjoyable activities and activities that give the person a sense of dominance and how to incorporate these activities in daily routine are the most important programs for this session.

Eighth session

First, the practice of physical checks is carried out in the last session. Then, a review of all periods is performed and group achievements and what has been learned can be discussed and also on the methods that can be used by them, these artifacts are best preserved and developing what has been learned during the past seven weeks, in the form of formal and informal training is discussed.

RESULTS

Analysis of the findings in this study was conducted in two parts. The mean and standard deviation were used in descriptive statistical analysis. The second part of the analysis of data was performed based on statistical inference analysis of covariance.

Table 1. Frequency of the participants by gender.

Gender	Frequency	Percent
Woman	23	57.5
Man	17	42.5
Total	40	100%

As it can be seen in Table 1, 57.5 % of the participants include 23 men and 42.5% of them include 17 women.

Table 2. Frequency of the participants in terms of education.

Education	Frequency	Percent
Diploma	22	50.0
Associate Degree	11	27.5
Bachelor Degree	7	17.5
Total	40	100%

The education of the participants can be seen in Table 2, 22 people were diploma (50.0 percent), 11 people were Associate Degree (27.5 percent) and 7 people (17.5) had a Bachelor Degree.

The average age of the participants are 43.20 with standard deviation of 6.55. The lowest of them are 27 and the highest of them are 54 years old.

The first hypothesis of the research

Group-therapy recognition based on mindfulness on rumination in cancer patients is effective.

Table 3. Mean and standard deviation of the pre-test and post-test variable rumination.

Variable	Condition	Group	Mean	SD	Min	Max	Number
Rumination	Pre-test	Experimental	59.95	4.52	53	69	20
		Control	60.60	5.67	55	65	20
		Total	60.28	5.07	53	69	40
	Post-test	Experimental	30.15	3.39	25	40	20
		Control	60.25	5.73	50	68	20
			45.20	15.93	25	68	40

The means are different in the pre-test and post-test of the variable of rumination. To evaluate significance of this difference, the analysis of variance was used.

Table 4. The results of the analysis of covariance of variable scores of rumination.

Variable	Source of changes	SS	df	MS	F	Sign.	Eta coefficient
Rumination	Pre-test	524.52	1	524.52	60.69	0.001	0.621
	Group	8741.94	1	8741.94	1011.49	0.001	0.965
	Error	319.77	37	8.64			
	Total	91626.00	40				

In order to examine this hypothesis which group-therapy recognition based on mindfulness on rumination in cancer patients is effective, the scores of rumination between two experimental and control groups were compared by using statistical method of covariance analysis. The results show that group-therapy recognition based on mindfulness on rumination in cancer patients is effective.

The second hypothesis of the research: group-therapy recognition based on psychological well-Being in cancer patients is effective.

Table 5. Mean and standard deviation of the variable of psychological well-being in the pre-test and post-test.

Variable	Condition	Group	Mean	SD	Min	Max	Number
Psychological well-being	Pre-test	Experimental	134.95	16.77	100	160	20
		Control	135.70	19.11	96	179	20
		Total	135.32	17.75	96	179	40
Psychological well-being	Post-test	Experimental	225.35	19.56	189	245	20
		Control	136.95	20.06	90	184	20
		Total	181.15	48.84	90	245	40

Table 6. The results of the covariance analysis of psychological well-being variable scores.

Variable	Source of changes	SS	df	MS	F	Sign.	Eta coefficient
Psychologic al well-being	Pre-test	4478.45	1	4478.45	15.87	0.001	0.300
	Group	78912.06	1	78912.06	279.69	0.001	0.883
	Error	10439.04	37	282.13			
	Total	1405676.00	40				

In order to examine this hypothesis which group-therapy recognition based on psychological well-being in cancer patients is effective, the scores of psychological well-being between two experimental and control groups were compared by using statistical method of covariance analysis. The results show that group-therapy recognition based on psychological well-being in cancer patients is effective.

DISCUSSION AND CONCLUSION

This study attempted to examine the hypothesis related to the impact of group-therapy recognition based on psychological well-being of cancer patients in a framework of a valid methodology based on the clinical trial. The results of this study showed that group-therapy recognition based on mindfulness could reduce rumination in these patients and increase psychological well-being of the patients. The present study results are consistent with the results of the studies of Batnik et al (2013), Elrich (2011), Mania and Gavacker (2010). In explaining the findings of this study, it can be found that cancer threatens independence and ability to play an important role in family and society and direct the person into feeling of lack of competence and self-confidence. Therefore, reducing sense of self-esteem in cancer patients is predictable and important which can be result in the incidence of reactivity, such as depression, anxiety, fear and self-hatred (Bruke., 2011). Mindfulness is predictive self-regulation behavior and positive emotional states and this can create positive changes in positive thinking and psychological well-being in patients through lively combination and vivid viewing experiences (Bron, 2003). Rumination of cancer patients is more based on mental and cognitive implications because in this way, the person learns techniques related to the experience of the present moment, and is leaved temporarily from the attitudes and beliefs that are originated in the past and influenced by the fears and worries of the future (Kabat-Zinn, 2003). Also, this attitude creates in them so that they can have without judgment to all the (pleasant and unpleasant) of the acceptance. These patients learns by using mindfulness skills that for their judging and blaming, that they are fuel and supplying negative thoughts, have less power, authority and value and respond these states kindly (Kueken et al., 2010). Taking such a measure is helpful, especially for the person with cancer who experiences painful feelings such as hopelessness, helplessness and sadness. Using mindfulness-based therapy recognition is associated with reducing rumination and faulty pattern of thinking of cancer patients and this method of treatment can be used as independent manner or in combination with other treatment methods such as drug therapy and psychological and behavioral problems due to rumination can be improved on people. Treatment of immediacy, attention and awareness of the person to the physical and emotional feelings are increased and feeling of confidence in life, deep compassion, and real acceptance of life events are followed because one of important aspects of mindfulness-based treatment is that people learn to confront with negative emotions and thoughts and positively experience mental events (Bohalmijer, 2012). It seems that practices of mindfulness-based therapy recognition are effective by increasing awareness of people to the present moment through techniques such as focusing on the breath and body, and focusing on the awareness of the here and

now, on cognitive and information processing system. Therefore, due to the effectiveness of this type of training and taking into account the usefulness of this technique in the treatment of depression, stress and anxiety and given that cancer patients spend in critical and turbulent condition, the widespread application of this treatment for patients with cancer who are experiencing depression and anxiety, is recommended.

Conflict of Interest

The authors declare no conflict of interest.

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