Journal of Applied Psychology & Behavioral Science. Vol., 2 (3), 155-162, 2017
Available online at http://www.japbs.com
ISSN 2536-524X ©2017

The Effectiveness of Mindfulness-Based Cognitive Therapy (MBCT) On Quality Of Life (QL) and Dysfunctional Attitudes (DA) In Patients with High Blood Pressure

Sorour Hasanzade, Javad Khalatbari*

Department of Psychology, Tonekabon Branch, Islamic Azad University, Tonekabon, Iran

*Corresponding Author Email: Javadkhalatbaripsy2@gmail.com

ABSTRACT: This study aimed to examine the effectiveness of mindfulness-based cognitive therapy (MBCT) on quality of life (QL) and dysfunctional attitudes (DA) in patients with high blood pressure. So far, dysfunctional attitudes and quality of life have not been investigated in patients with high blood pressure. It was a pre-test post-test control group design. The population included all patients with High Blood Pressure were referred to Firoozgar Hospital in 1394. Thirty patients were selected randomly and assigned to treatment and control groups. Patients completed WHOQOL-BREF and DAS before and after the intervention. The treatment group received eight sessions of MBCT treatment while the control group received routine medical treatments and was put on the waiting list to receive psychological treatment. The result of multivariate analysis of covariance (MANCOVA) showed a statistical significant increase in mean scores of QL ($P<0.01$) and a statistical significant decrease in mean scores of DA ($P<0.01$) in treatment groups. Compared to control group, patients in treatment groups score higher in QL and lower in DA. It can be concluded that MBCT treatment improves QL and decreases DA in patients with high blood pressure.

Keywords: Quality Of Life, Dysfunctional Attitudes, Mindfulness, High Blood Pressure.

INTRODUCTION

High Blood Pressure is defined as increase of blood pressure in arteries and is mostly well-known for systolic blood pressure (BP) higher than 140 mmHg and diastolic BP higher than 90 mmHg. (Rahimian Mashhad et al., 2010). Today, High Blood Pressure is one of the most outstanding risky reasons for cardiovascular disease and consequently the quick spread in the society, so that many people around the world are facing its challenges. Research results show that High Blood Pressure is out of control in the whole world, so that in the past twenty years, more than one billion people were suffering the disease (Rahimian Mashhad et al., 2010). Like most of the chronic disease, High Blood Pressure is in close relationship of life style, mental health and quality of life for those who are involved in. In case of not preventing the disease in the appropriate stage or using a useful method, it will cause many other illnesses, significant incapability, efficiency decrease and eventually decreasing the quality of life (Shamsi et al., 2012).

The expression "Quality of Life" became famous in socio-economic discussions during the late 1950s and later entered in psychology. Then psychologists made effort to develop statistics for calmness and convenience and additionally paid attention to the needs in higher levels. Researches regarding quality of life at first occurred within typical normal people and the results were compared with disabled people. Later it was used for the contrast between kinds of disabilities. In the field of mental health, the focus of these types of researches was moved gradually from the hospitals to the whole society (Karimi vakil, 2012). Today, the quality of life is known as a basic statistic and since it contains different features as physiology, existence and behavior of a person, therefore great and enough attention must be paid to it. Meanwhile, in order to have accurate study about it, all the mentioned features must be considered. Based on these general definitions, the quality of life is mostly depended on a person's physio-psychological condition, his personal believes, the self-reliance, social conditions and the environment he lives in (Zahmatkeshan et al., 2012).

Dysfunctional attitudes could be one of the causes of vulnerability in negative stressed situations which finally puts the quality of life in risk. The concept of dysfunctional attitudes was first offered by Beck (1967), describing depression and also as a principal concept for creation and stability of the disease in human (Liu, 2002). Dysfunctional attitudes are made by a collection of stable cognitive patterns which is concluded from a series of initial events in a person's life. These patterns mostly hold strong, but inappropriate believes about the man and the world he lives in. These patterns in a cognitive look, like a filtering process, help a person analyses a huge amount of information in his daily interactions with the world around (Koushki et al., 2012). Beck describes dysfunctional attitudes as inflexible idealistic mental patterns which a person uses to judge him and others. Since these attitudes are inflexible, exaggerative and resistant to change, therefore are named as dysfunctional (Rakrava et al., 2014). Dysfunctional attitudes also play roles in the distraction of negative signs in non-clinical samples. People usually feel distracted from negative non-clinical signs like reluctance and lack of pleasure. Additionally, the amount of the distraction relates to the variety of the signs. Also, the belief of failed performance depends on the extent of negative signs, concluding that dysfunctional attitudes act as mediators among extent of negative signs and amount of distraction (Fervaha et al., 2015). Researches prove the influence of therapy on quality of life (Campos-Rodriguez et al., 2016; Ulbrich et al., 2016; Orsey et al., 2017) and dysfunctional attitudes (Keng et al., 2016; Renner et al., 2014). But one of the most effective well-known therapies is mindfulness based cognitive therapy (MBCT). Baer (2003) has defined mindfulness as observation without judgment over the inner and outer ongoing in the stimuli. Not to judge, improves mindfulness. When one faces a hard physical or emotional situation, not to judge about the past experiences makes his mind aware beyond what he sees or feels around. Of course this feeling results from acceptance of joyful or painful experiences. Acceptance doesn't mean to approve amoral behaviors around; but it means to approve different behaviors. In the other words, to change is the same as to approve, although it occurs faster.

In Buddhism, mindfulness is defined as full attention or non-discursive record of events without mental reaction and assessment. Mindfulness focuses more on continuous attention rather than the sole event. Mindfulness is a type of non-judgmental awareness about personal experiences which reveals gradually without occurrence any judgements. Although the principal goal of mindfulness is not calmness, but this observation of inner negative ongoing without judgment or any physiologic stimulation results to calmness. Mindfulness is the observation of inner and outer ongoing without doing judgments. Mindfulness is a type of skill which lets people comprehend events around at the moment of occurring in a less offending way than those really are. When people become aware of the present time in which events occur, they pay less attention to the past or future. As we know, most of the psychological disorders rout back in the events of past or probable occurring in future. As an example, patients suffering depression mostly feel regret or guilty about the past. Or those who are anxious usually concern about the future with fear and anxiety (Robins, 2002; Kabat-Zinn, 2003; Baer, 2003).

Researches about the effectiveness MBCT on quality of life and dysfunctional attitudes are diverse but few. Haghi et al (2014) have studied the effectiveness of MBCT on the quality of life in military people. The results of multivariate analysis of variance (MANOVA) showed a significant effectiveness of MBCT on the quality of life in the treatment group so that it can improve quality of life in military people. Azargoun and Kajbaf (2010) also studied the effectiveness of mindfulness training on reducing dysfunctional attitudes and automatic thoughts. Results attained from covariance analysis proved the effectiveness of MBCT, So that in the scores of an treatment group gained from the questionnaires of dysfunctional attitudes, self-made thoughts and depression, an incredible decrease was outstanding compared to the control group. Ghashghaee et al (2014) studied the effectiveness of MBCT in the quality of life for those patients with type II diabetes in which the results approved the effectiveness of MBCT on their overall psychological and physical features. Kaviani et al (2005) studied MBCT and its positive effectiveness on negative self-made thoughts, dysfunctional attitudes, depression and anxiety. A two-way repeated

measures ANOVA showed that MBCT is effective in decreasing depression, anxiety, dysfunctional attitudes and self-made thoughts.

Gross et al (2011) made assessments of two methods of MBCT and pharmacotherapy in insomnia. Compared to the other one, the treatment group taking MBCT method, had achieved bold improvements in sleeping. Nakamura et al (2011) studied the effectiveness of two training sessions of mindfulness on sleeping and quality of life in patients with post-traumatic stress disorder. Results confirmed the effectiveness of training in sleep quality; however, no significant improvement was reported for the quality of life. Colle et al (2010) made a research about those who participated in the program of mindfulness based stress reduction (MBSR) for the first time in a clinic in order to observe their quality of life. Results showed total statistical improvements in the quality of life, psychological, physical, social and spiritual welfares. Besides other positive changes were reported in pain control, pain toleration, receiving supports from friends and family and also removing financial or legal concerns. Morone et al (2008) observed mindfulness based concentration in adults suffering from chronic backache. Patients reported notable positive effects over the tempers after those concentration sessions. Also they reported improvements such as less pain, more attention to the events around, better sleeping and higher quality of life. In a study by Rosenzweig et al (2010) in order to contrast changes of physical pain, health related quality of life (HRQOL) and psychological signs were observed during an eight week program of mindfulness based stress reduction (MBSR) within a group of patients suffering from chronic pains. Patients demonstrated a significant change in pain intensity and functional limitations due to pain following MBSR. Patients with chronic headache/migraine experienced the smallest improvement in pain and HRQoL. Patients with fibromyalgia had the smallest improvement in psychological distress. In general, treatment groups with chronic pains reported more meaningful improvements in pain toleration and reaction limitation.

With a general look over the researches and results, it is found out there is not enough rich research background, except for some few variables of dysfunctional attitudes. However studies for the variable of quality of life are more diverse. Additionally, up to now, two variables of dysfunctional attitudes and quality of life have not been studied simultaneously. On the other hand, some researches have been done on psychosomatic disease as asthma, diabetes, chronic pains and etc. and it is meant to have such research for patients of high blood pressure. Thus, significance of the current study is that whether mindfulness based cognitive therapy affects positively dysfunctional attitudes and quality of life for patients with high blood pressure.

MATERIALS AND METHODS

Research design of the current study is experimental with pre-test post-test and control group. Statistical population concluded patients with High Blood Pressure who referred to Tehran Firoozgar Hospital in the late 2015 and early 2016. Mean score and standard deviation for QL and DA for this population was less than the average. Also they had no exterior standard such as any noticeable physical or mental disease like diabetes which is depended to specific medicine or food diet. Thirty patients were selected randomly as initial samples and assigned to treatment and control groups. Each group had fifteen members. For ethical considerations and to avoid discrimination (American Educational Research Association[1], 2011) asked patients to complete WHOQOL-BREF questionnaires before and after the intervention and also explained to them about the treatment and control groups. Also they were made clear that intervention should be administrated for the treatment group, but when all stages of intervention were done completely, then spiritual training would be given as a therapy for the control group. In this research, Multi Variance Analysis of Covariance (MANCOVA) was used to analyze the data. For data collection the following tools were applied:

Questionnaires for the World Health Organization Quality of Life – BREF (WHOQOL-BREF): The questionnaire is a summarized form of 100 items designed by WHOQOL and examines different features of quality of life. The questionnaire is translated into many languages including Farsi and is one of the most typically used research tools for the quality of life in Iran and abroad. The reliability of this questionnaire is appraised and approved in Iran. It includes 26 questions. Two of the questions are about satisfaction of the sample from his overall health condition and his general concept of the quality of life. Rest of the questions examine and score samples' feeling and behavior for the quality of life in the past two weeks (Sotoudeh asl et al., 2010). Skevington et al (2004) have studied psychometric features of this tool in twenty four cities of several countries. 11830 samples between 12 to 97 years old with the average age of 45 and standard deviation of 16 participated in this research. To examine the

[1] AERA

stability of this questionnaire the method of Internal Consistency (Cronbach's Alpha) was used. Cronbach's Alpha for physical health scored 0.82, for psychological health it scored 0.81, for the environment health it scored 0.80 and for the social connection it scored 0.68. Validation of this tool was examined and approved by two methods of differential validation and structural validation. Nejat et al (2006) translated and standardized the tool. The questionnaire was translated twice and eventually an appropriate copy was transcribed into Farsi. These researchers examined the scale reliability by the methods of retesting and internal consistency. This research included 1167 samples from Tehran, selected randomly. In test-retest method, the interclass correlation coefficient for the whole four components scored above 0.7. Generally, this questionnaire validation and stability is appropriate for Iranian population.

Dysfunctional Attitudes Scale (DAS): This scale was designed by Weissman & Beck (1978). It evaluates negative and dysfunctional attitudes which includes 40 seven-choice questions. The questionnaire evaluates components of performance and social approvals. Weissman & Beck have reported Cronbach's Alpha for this questionnaire as 0.92 and the validity is considered as 0.79 (Rabiee et al., 2009).

The internal consistency and stability of DAS are reported as 0.90 and 0.73 respectively. In an Iranian research the test stability is reported 0.72 by using test-retest method in a population of thirty samples (Kazemi & Ghorbani, 2012).

The subject should specify his attitude towards every single question with the scales of totally agreed or disagreed in a questionnaire. The method of DAS scoring is so that every response has a score of 1 (totally disagreed) to 7 (totally agreed). Of course for the items 2, 6, 12, 17, 24, 29, 30, 35, 37 and 40 scoring is vice-versa of the other items. Therefore subjects score results will be minimum from 40 to maximum 280. Based on various researches, mean scores for healthy people range from 119 to 128 and higher scores show vulnerability (Hajializadeh et al., 2008).

Mindfulness therapy occurred in 8 group sessions of 120 minutes for treatment groups and the content of these therapy sessions are detailed in table 1.

Table 1. Contents of mindfulness therapy sessions.

Session No.	Contents of training sessions
1st	Attention to automatic guidance and mindfulness training
2nd	Facing the obstacles, practicing on bad feelings, mind distraction, mind repetitive habits and practice in virtual life
3rd	Mindfulness by breathing, concentration as a practice in mind, facing and controlling the thoughts, recognition of patterns of automatic thoughts, generalizing practice of three-minute breathing space
4th	Being in present, easy touch, experience discovery, attachment and aversion, limiting and expanding experiences, attention to faulty recognitions, challenging with those and making substitutions
5th	Permission and creation of a relationship different from the former ones, how to create and accept the relationship, using the breath space, extended instruction and continuance of cognitive methods
6th	Thoughts are not facts. Facing the thoughts in cognitive therapy, approach of mindfulness based cognitive therapy, observation of mind recording to be aware of what goes on in mind, getting prepared for the future, continuance of cognitive methods
7th	How can I protect me in the best way? Attention to the relationship between creation and activity, identifying my own signs, suggestions for reacting to risks and prevention of returning
8th	Reviewing past subjects, a look from forward and suggestions for preventing to return

RESULTS

Thirty subjects included in treatment and control groups. Mean scores and standard deviation for QL and DA at both stages of pre-test post-test for both groups are reported in table 2. Table 2 shows different scores between treatment and control groups at the stages of pre-test and post-test.

Table 2. Mean scores and standard deviation for QL and DA in pre-test and post-test.

		Treatment Group		Control Group	
		M	SD	M	SD
QL	Pre test	50.27	1.710	50.60	2.849
	Post test	63.33	3.677	50.87	1.846
DA	Pre test	160.13	12.182	157.47	16.405
	Post test	123.93	11.616	158.33	10.452

As can be noted in table 3, the null hypothesis is confirmed for variance equality in both groups in variables of QL and DA.

Table 3. Results of Levin's test for presumption of variance equality for two groups.

	F	df1	df2	Sign.
QL	2.759	1	28	0.108
DA	0.119	1	28	0.733

In the current research MANCOVA is applied. That is because of two dependent variables which is obliged to use multivariable methods.

Table 4 shows significant score differences in dependent variables between treatment and control groups. Thus it can be concluded that at least in one of the dependent variables of QL or DA compared in two groups, there is a significant difference. In order to comprehend this difference, One-way ANOVA was used in MANCOVA text. Results are included in table 5. The effect size shows that difference of two groups is because of the intervention.

Table 4. Results of multivariable analysis of covariance on mean scores of post-test for QL and DA in two treatment and control groups.

	Tests	Value	F	Hypothesis df	Error df	Sig.	Effect size
GROUP	Pillai's trace	0.494	12.180	2	25	0.000	0.494
	Wilk's lambda	0.140	76.984	2	25	0.000	0.860
	Hotelling's trace	0.974	12.180	2	25	0.000	0.494
	Roy's largest root	0.974	12.180	2	25	0.000	0.494

Table 5. Results of single-variable analysis of covariance in MANCOVA text on mean scores of post-test for QL and DA in treatment and control groups.

Dependent Variable	Source	SS	df	MS	F	Sig.	η2
QL	pretest	601.967	1	601.967	18.793	0.000	0.420
	GROUP	501.398	1	501.398	15.653	0.001	0.376
	Error	832.813	26	32.031			
DA	pretest	5030.800	1	5030.800	122.527	0.000	0.825
	GROUP	917.265	1	917.265	22.340	0.000	0.462
	Error	1067.524	26	41.059			

Results of table 5 show significant differences for QL and DA in one group compared to the other one.

DISCUSSION AND CONCLUSION

The aim of the current study was to examine the effectiveness of MBCT on QL and DA in patients with high blood pressure. Results approve that MBCT improves QL and DA in the treatment group compared to the control group.

QL improvement in the treatment group approves research results done by Kaviani et al (2008). It can be concluded that mindfulness base cognitive practicing can make positive effects on cognitive system and data analysis with methods like attention to body, breathing and the present. Considering different features of life as physical, psychological, social and spiritual, mindfulness practices affect all the features. Eventually this method affects the quality of life. Kabat-Zinn (2005) suggests to focus on pains in the body and joints during concentration sessions and only observe without showing the least emotional reaction to pain. This observation can reduce emotional responses which are motivated by the pain. Thus, mindfulness practices can improve patients' skill to tolerate negative emotional states. Therefore he can face troubles effectively. This could result in an improvement in the quality of life.

Results of this research also approve what Rosenzweig et al (2010) have found out. They have concluded that mindfulness based stress reduction can affect physical pains, quality of life and psychological conditions in patients with chronic disease. Additionally mindfulness can improve feeling, emotion and comprehension components in a person by self-regulatory. These conclusions are in accordance with former researches (Nakamura et al., 2011; Colle et al., 2010; Morone et al., 2008).

Mindfulness can improve physical alert which leads to self-protection. Like traditional relaxation training, mindfulness concentration can deeply relax muscles by activation of the parasympathetic and could lead to stress and pain reduction. Mindfulness can protect a person from stress and losing temper by the help of cognitive facing, positive reexamining the situation and strengthening emotional adjustments (Masoumian et al., 2013).

DA reduction in the treatment group is the same result of the current research as the one done by Azargoun and Kajbaf (2010). In MBCT, the therapist manages for a type of cognitive restructuring without being engaged in the data and dysfunctional attitudes in subjects (Kabat-Zinn, 2005).

Also mindfulness based interventions can affect dysfunctional attitudes in schizophrenia. Actually this is one of the objectives of mindfulness based cognitive therapy which helps to reduce stress. Mindfulness assists patients to consider negative depressing thoughts as temporary events. In a schizophrenia, strengthening this attitude can remove his resistance for the beliefs and probably leads to reduction of negative signs and eventually better therapy conclusions (Tabak et al., 2015). These finding are in accordance with the researches done by Kaviani et al (2005).

Considering the success of MBCT and the advantages it has bought for dysfunctional attitude reduction and improvement in life quality for patients with high blood pressure, this type of treatment is suggested for these people. Also it is recommended next researches be done for other disease like diabetes, migraine, asthma, psychosomatic patients and coronary heart disease. Also that would be an appropriate suggestion to follow up the effectiveness of the intervention in a long period. The limitation of the current study can be not to follow up the intervention effect and also studying only patients of high blood pressure. Additionally, research inclusion criteria avoid extending the results to the patients not involved in the research or other psychosomatic patients.

Conflict of interest

The authors declare no conflict of interest.

REFERENCES

Azargoun, H., & Kajbaf, M. B. (2010). The Effect of Mindfulness Training on the Dysfunctional Attitude and Automatic Thinking of Depressed Students of Isfahan University. Journal of Psychology, 14(1), 79-94.

Baer, R. A. (2003). Mindfulness training as a clinical intervention: A conceptual and empirical review. Clinical psychology: Science and practice, 10(2), 125-143.

Campos-Rodriguez, F., Cordero-Guevara, J., Gonzalez, M., Carmona-Bernal, C., Jurado-Gamez, B., Troncoso-Acevedo, F., & Encabo-Motino, A. (2016). Effect of Continuous Positive Airway Pressure on Quality Of Life in Women with Obstructive Sleep Apnea. A Randomized-Controlled Trial. In A110. THE SLEEPY AND AGING BRAIN: OSA AND COGNITION IN THE ELDERLY (pp. A2855-A2855). American Thoracic Society.

Colle, K. F. F., Vincent, A., Cha, S. S., Loehrer, L. L., Bauer, B. A., & Wahner-Roedler, D. L. (2010). Measurement of quality of life and participant experience with the mindfulness-based stress reduction program. Complementary Therapies in Clinical Practice, 16(1), 36-40.

Fervaha, G., Zakzanis, K. K., Foussias, G., Agid, O., & Remington, G. (2015). Distress related to subclinical negative symptoms in a non-clinical sample: Role of dysfunctional attitudes. Psychiatry research, 230(2), 249-254.

Ghashghaee, S., Naziri, G., & Farnam, R. (2014). The Effectiveness of Mindfulness-based Cognitive Therapy on Quality of Life in Outpatients with Diabetes. Iranian Journal of Diabetes and Metabolism, 13(4), 319-330.

Gross, C. R., Kreitzer, M. J., Reilly-Spong, M., Wall, M., Winbush, N. Y., Patterson, R., & Cramer-Bornemann, M. (2011). Mindfulness-based stress reduction versus pharmacotherapy for chronic primary insomnia: a randomized controlled clinical trial. Explore: the journal of science and healing, 7(2), 76-87.

Haghi, A., Salimi, S. H., Dabaghi, P., & Rabiee, M. (2014). The Effectiveness of Mindfullness Based Cognitive Therapy on Quality of Life in Military Personnel. Journal of Nurse and Physician with in War, 2(3), 64-71.

Hajializadeh, K., Bahreinian, S. Am., Naziri, G., & Modares ghoravi, M. (2008). A comparison of dysfunctional attitudes in substance abusers and control group and its psychological outcome. Journal of Research on Addiction, 2(7), 67-78.

Kabat-Zinn, J. (2003). Mindfulness-based interventions in context: past, present, and future. Clinical psychology: Science and practice, 10(2), 144-156.

Kabat-Zinn, J. (2005). Coming to our senses: Healing ourselves and the world through mindfulness. Hachette UK.

Karimi vakil, A. R. (2012). The Relationship between Quality of Life and Religious Orientation with Death Anxiety. M.A. Thesis. Allameh Tabataba'i University. Tehran.

Kaviani, H., Hatami, N., & Shafiabadi, A. (2008). The Effect of Mindfulness-based Cognitive Therapy on Quality of Life of Depressed People (non-clinical sample). Journal of Advances in Cognitive Science, 10(4), 39-48.

Kaviani, H., Javaheri, F., & Bohiraee, H. (2005). The Effectiveness of Mindfulness-based Cognitive Therapy (MBCT) on Negative Automatic Thoughts, Dysfunctional Attitudes, Depression, and Anxiety: A 60 - day Follow up. Journal of Advances in Cognitive Science, 7(1), 49-59.

Kazemi, H., & Ghorbani, M. (2012). Evaluation of relationship between metacognition components and dysfunctional attitudes in outpatients with bipolar mood disorder II. Journal of Shahid Sadoughi University of Medical Sciences, 20(1), 90-100.

Keng, S. L., Seah, S. T., Tong, E. M., & Smoski, M. (2016). Effects of brief mindful acceptance induction on implicit dysfunctional attitudes and concordance between implicit and explicit dysfunctional attitudes. Behaviour research and therapy, 83, 1-10.

Koushki, Sh., Jamali, M., Salehi, M., & Akbari, H. (2012). The effectiveness of mindfulness-based stress to reduce depression and dysfunctional attitude in heart disease. Journal of Psychological Researches, 15, 93-108.

Liu, Y. L. (2002). The role of perceived social support and dysfunctional attitudes in predicting Taiwanese adolescents' depressive tendency. Adolescence, 37(148), 823.

Masoumian, S., Shairi, M. R., & Hashemi, S. M. (2013). The Effect of Mindfulness-Based Stress Reduction on Quality of Life of the Patients with Chronic Low Back Pain. Journal of Anesthesiology and Pain, 4(1), 25-37.

Morone, N. E., Greco, C. M., & Weiner, D. K. (2008). Mindfulness meditation for the treatment of chronic low back pain in older adults: a randomized controlled pilot study. Pain, 134(3), 310-319.

Nakamura, Y., Lipschitz, D. L., Landward, R., Kuhn, R., & West, G. (2011). Two sessions of sleep-focused mind–body bridging improve self-reported symptoms of sleep and PTSD in veterans: A pilot randomized controlled trial. Journal of psychosomatic research, 70(4), 335-345.

Nejat, S., Montazery, A., Holakouee naeeni, K., Kazem, M., & Majdzadeh, S. R. (2006). The World Health Organization quality of Life (WHOQOL-BREF) questionnaire: Translation and validation study of the Iranian version. Journal of School of Public Health and Institute of Public Health Research, 4(4), 1-12.

Orsey, A. D., Park, C. L., Pulaski, R., Shankar, N. L., Popp, J. M., & Wakefield, D. (2017). Results of a Pilot Yoga Intervention to Improve Pediatric Cancer Patients' Quality of Life and Physical Activity and Parents' Well-being. Rehabilitation Oncology, 35(1), 15-23.

Rabiee, M., Molavi, H., Kalantari, M., & Azimi, H. (2009). The relationship between dysfunctional attitudes, coping strategies and mental health. Journal of Educational and Psychological Researches, 4(2), 21-30.

Rahimian Mashhad, Z., Atarzadeh Hoseini, S. R., & Aryannejad, J. (2010). The Effect of Aerobic Training and Diet on Cardiovascular Risk Factors and Blood Pressure in Overweight and Obese Women with Hypertension. Iranian Journal of Endocrinology and Metabolism, 12(4), 376-384.

Rakrava, M., Omrani fard, V., Ebrahimi, A., Atapour, A., & Mortazavi, M. (2014). Relationship between Quality of Life, General Health and Dysfunctional Attitudes in Kidney Transplant Patients. J Res Behave Sci, 12(4), 510-519.

Renner, F., Schwarz, P., Peters, M. L., & Huibers, M. J. (2014). Effects of a best-possible-self mental imagery exercise on mood and dysfunctional attitudes. Psychiatry research, 215(1), 105-110.

Robins, C. J. (2002). Zen principles and mindfulness practice in dialectical behavior therapy. Cognitive and behavioral practice, 9(1), 50-57.

Rosenzweig, S., Greeson, J. M., Reibel, D. K., Green, J. S., Jasser, S. A., & Beasley, D. (2010). Mindfulness-based stress reduction for chronic pain conditions: variation in treatment outcomes and role of home meditation practice. Journal of psychosomatic research, 68(1), 29-36.

Shamsi, A., Refahi, A. A., Malmir, M., Molahadi, M., & Ebadi, A. (2012). Comparison of quality of life in military personnel with and without hypertension. Ann Mil Health Sci Res, 10(3), 213-218.

Skevington, S. M., Lotfy, M., & O'Connell, K. A. (2004). The World Health Organization's WHOQOL-BREF quality of life assessment: psychometric properties and results of the international field trial. A report from the WHOQOL group. Quality of life Research, 13(2), 299-310.

Sotoudeh asl, N., Neshat doust, H. T., Kalantary, M., Talebi, H., & Khosravi, A. (2010). Comparison of Effectiveness of Two Methods of Hope Therapy and Drug Therapy on the Quality of Life in the Patients with Essential Hypertension. Journal of Clinical Psychology, 2(1), 27-34.

Tabak, N. T., Horan, W. P., & Green, M. F. (2015). Mindfulness in schizophrenia: associations with self-reported motivation, emotion regulation, dysfunctional attitudes, and negative symptoms. Schizophrenia research, 168(1), 537-542.

Ulbrich, A. Z., Angarten, V. G., Netto, A. S., Sties, S. W., Bündchen, D. C., de Mara, L. S., & de Carvalho, T. (2016). Comparative effects of high intensity interval training versus moderate intensity continuous training on quality of life in patients with heart failure: study protocol for a randomized controlled trial. Clinical Trials and Regulatory Science in Cardiology, 13, 21-28.

Zahmatkeshan, N., Bagherzadeh, R., Akaberian, Sh., Yazdankhahfard, M. R., Mirzaee, K., Yazdanpanah, S., Khoramroudi, R., Gharibi, T., Kamali dasht ejani, F., & Jomand, T. (2012). Assessing Quality of Life and related factors in Bushehr's elders. J Fasa Univ Med Sci, 2(1), 53-58.