journal of
Adolescent and Youth Psychological Studies
www.jayps.iranmehr.ac.ir

Fall (October) 2023, Volume 4, Issue 7, 69-75

The effectiveness of positive treatment on distress tolerance and rumination in patients with chronic hypertension

Neda. Vahidi Moghadam[1], Ali. Khademi*[2], Marjan. Hosseinzadeh Taghavi[3], Ali Zeinali[4] & Mohammadreza Dehghani[5]

1. PhD student in psychology, Department of Psychology, United Arab Emirates Branch, Islamic Azad University, Dubai, United Arab Emirates
2. ***Corresponding Author:** Associate Professor, Department of Psychology, Urmia Branch, Islamic Azad University, Urmia, Iran
3. Assistant Professor, Department of Psychology, Karaj Branch, Islamic Azad University, Karaj, Iran
4. Associate Professor, Department of Psychology, Khoy Branch, Islamic Azad University, Khoy, Iran
5. Associate Professor, Department of Cardiology, Urmia University of Medical Science, Urmia, Iran

ARTICLE INFORMATION

Article type
Original research
Pages: 69-75

Corresponding Author's Info
Email:
dr_ali_khademi@yahoo.com

Article history:
Received: 2022/07/31
Revised: 2022/12/24
Accepted: 2022/12/31
Published online: 2023/10/02

Keywords:
Positive therapy, distress tolerance, rumination, chronic hypertension.

ABSTRACT

Background and Aim: It is necessary to identify psychological treatments effective in improving the mental health of patients with chronic blood pressure, so the aim of this study was to determine the effectiveness of positive therapy on the tolerance of distress and rumination in patients with chronic blood pressure **Methods:** The present research was a quasi-experimental type of pre-test-post-test with a control group. The statistical population of the present study was all patients with high blood pressure who referred to the specialized and super-specialized center of Imam Khomeini Hospital in 2021. Among the qualified people who volunteered to participate in the research, 30 people were selected by available sampling method and randomly placed in two experimental and control groups (15 people in each group). The experimental group participated in nine 90-minute sessions of positive therapy training based on Marrero et al.'s (2016) therapy package, but the control group did not receive therapy. Data collection tools included Simons and Gaher (2005) distress tolerance scale and Nolen Hoeksema and Morrow (1991) rumination scale. Data were analyzed using SPSS version 24 software and multivariate analysis of covariance at a significance level of α=0.05. **Results:** The results showed that positive treatment significantly increased distress tolerance (F=75.29, P<0.001) and decreased rumination (F=24.73, P<0.001) in patients with chronic hypertension. **Conclusion:** The results emphasize the importance of positive therapy in patients with chronic hypertension and providing new horizons in clinical interventions. Therefore, positive therapy can be used as a complementary treatment to create a positive and appropriate change in patients with chronic hypertension.

How to Cite This Article:
Vahidi Moghadam, N., Khademi, A., Hosseinzadeh Taghavi, M., Zeinali, A., & Dehghani. M.R. (2023). The effectiveness of positive treatment on distress tolerance and rumination in patients with chronic hypertension. Jayps. 4(7): 69-75.

Introduction

High blood pressure is the most important public health problem in different countries of the world, which is common, asymptomatic and often undiagnosed and leads to fatal complications if not treated. In fact, the attribute of silent killer is applied to primary hypertension due to the absence of recognizable symptoms and unpleasant complications of cardiovascular diseases that this disease leaves behind if not properly treated (Davis, 2010). In the past, disease and treatment methods were evaluated only based on objective factors, but today, the definition of health has a wider scope, and in addition to the optimal physical condition, mental factors such as: experiences, behaviors, psycho-social status are also taken into consideration. Various factors can play a role in the severity of blood pressure symptoms, some are related to the disease itself, some depend on factors such as psychological characteristics, worry about the disease, and the amount of psychological pressure (Thomas et al., 2019).

One of the influencing factors in how patients react to the disease is their capacity to bear distress. Distress is a common construct in research related to emotional disorder, which is expressed as a meta-emotional construct and as a person's ability to experience and resist negative emotional states. This structure, which may be created as a result of cognitive or physical processes in a person, is an emotional state that is often characterized by practical tendencies to reduce the negative effects of emotional experience (Simons & Gaher, 2005). Also, distress tolerance has a multidimensional nature and includes several dimensions: 1) Tolerance ability 2) Evaluation and acceptance capacity of emotional state 3) Emotion regulation method by the individual 4) The amount of attention attracted by negative emotions and the amount of its contribution to the occurrence of dysfunction (Duan, Son, and Kim, 2018) . Some researchers have considered a wide range of concepts to describe the structure of distress tolerance, which differ from each other primarily in terms of the focus on distress. In fact, in various literatures, distress tolerance may be reflected in the cognitive, emotional, behavioral, or physiological domains (Liro et al., 2010). Research results indicate that distress tolerance has an effect on the evaluation and consequences of experiencing negative emotions, so that people who have less distress tolerance compared to others show a stronger reaction to stress. (Shahidi et al., 2021; Nizam Zadeh et al., 2021). In addition, these people show weaker coping abilities against distress and as a result, they try to avoid such emotions by using strategies aimed at reducing negative emotional states (Emami et al., 2016). Also, a number of studies have shown that low distress tolerance is related to a wide range of disorders: including practical obsession (Velazareb et al., 2016); drug use (Ali et al., 2017); self-injurious behaviors such as self-mutilation (Ellis et al., 2018); major depressive disorder (Elhai et al., 2018); Impulsive behaviors such as binge eating (Suzuki et al., 2016).

It seems that another important variable in patients is rumination (Verculina et al., 2007). Rumination is known as a constant preoccupation with an idea or topic and thinking about it, and it is a class of conscious thoughts that are determined around an axis and are repeated without dependence on environmental demands. Rumination can increase the effects of negative mood on problem solving and motivation. Also, this makes people think negatively and weakens their ability to solve problems (Heidrian, Zahrakar, and Mohsenzadeh, 2015). At this stage, the person makes extreme estimates of the probability of negative events and his own responsibility for creating or preventing the consequences of disasters related to thoughts and tries to control these thoughts (Moberly & Dixon, 2016). McKay's (2008) review shows that people who cannot effectively manage their emotional responses to everyday events experience more intense and longer periods of psychological distress.

Positive cognitive behavioral therapy is a new approach in the application of cognitive behavioral therapy (McGovern et al., 2019). Mindfulness, positive treatment and desensitization of eye movements and reprocessing are the third wave of cognitive behavioral therapy; While positive cognitive behavior therapy is considered the fourth wave of this type of therapy, it expands the set of existing interpretive schemas and creates a wider range of therapeutic options when applying therapeutic interventions with clients and their families. By increasing the internal

motivation of clients and positive emphasis (Parsakia et al., 2022), it is possible to use cognitive behavioral therapy in a shorter period of time. Positive cognitive behavioral therapy also gives clients more autonomy and directs conversations in a more pleasant direction, and these pleasant conversations, in turn, lead to less stress, depression and fatigue of therapists (Ben Nink, 2012). In terms of the effectiveness of positive therapy, the results of Mirza Nikozadeh's research (2016) showed that positive psychotherapy has been effective in improving people's resilience. According to the mentioned materials and taking into account the lack of research in this field, the present study aims to answer the question of whether positive treatment has an effect on emotional regulation, distress tolerance and rumination in patients with high blood pressure.

Method

The present research was a semi-experimental type of pre-test-post-test with a control group. The statistical population of the present study was all patients with high blood pressure referred to the specialized and super-specialized center of Imam Khomeini Hospital in 2021. 30 patients who meet the criteria for entering the research were identified and randomly divided into two experimental groups and a control group. For conducting experimental and semi-experimental researches, a sample size of at least 15 people for each group is suggested (Delavar, 2005). The sample of the present study was selected from the statistical population using the purposeful sampling method and taking into account the criteria for entering and exiting the study. The inclusion criteria included minimum education at the diploma level, minimum age of 40 years and maximum age of 70 years, and informed consent to participate in the research. Exclusion criteria included the presence of mental disorders requiring immediate treatment (such as psychotic symptoms and substance dependence) and the presence of concurrent malignant disease.

Materials

1. Distress Tolerance Scale: The Distress Tolerance Scale is a self-measurement index of emotional distress tolerance from Simons and Gaher (2005), which has 15 items (Simons & Gaher, 2005). The statements of this questionnaire are scored on a five-point scale (1- completely agree, 2- slightly agree, 3- neither agree nor disagree, 4- slightly disagree, 5- completely disagree); Each of these options has 1, 2, 3, 4 and 5 points respectively. Statement 6 is scored in reverse. High scores in this scale indicate high distress tolerance (Simons and Gaher, 2005). To obtain the overall distress tolerance, the scores of all the questions are added together, and to obtain the score of each dimension, the scores of the questions of each dimension are added together as mentioned above. Simons and Gaher (2005) have reported 0.82 for the whole scale, they also reported that this questionnaire has good initial convergent and criterion validity. Alavi (2009) has used this tool in his thesis, he has implemented it on 48 students of Ferdowsi University and Mashhad Medical Sciences (31 women and 17 men); He has reported that the entire scale has high internal consistency reliability ($\alpha = 0.71$) (Alavi, 2009).

2. Rumination scale: Nolen Hoeksma and Morrow (1991) developed a self-test questionnaire that evaluated four different types of reaction to negative mood. The rumination response scale consists of 22 items that respondents are asked to rate each on a scale from 1 (never) to 4 (often) (Turner-Gonzalez & Nolen Hoeksma, 2003). Based on empirical evidence, the scale of rumination responses has high internal reliability. Cronbach's alpha coefficient is in the range of 0.88 to 0.92. Various studies show that the test-retest correlation for the rumination response scale is 0.67 (Laminet, 2004). This scale was translated from English to Farsi for the first time (Baghrinejad et al., 2010). The predictive validity of rumination responses scale has been tested in a large number of studies. As previously explained, the results of many researches show that the scale of rumination responses can predict the severity of depression in follow-up periods in clinical and non-clinical samples by controlling variables such as the initial level of depression or stressful factors. Also, based on research findings, this scale can determine people's vulnerability to depression. In addition, it has been shown that this scale can predict a clinical course of depression. Also, in Bahrami and Mahmoudi's (2007) study, Cronbach's alpha coefficient was obtained 0.91.

3. Positive therapy The summary of treatment sessions was according to Table 1. This program was implemented based on 4 stages and 9 steps.

Table 1. Summary of positive therapy sessions

Step	Session	Content
Communicating and interviewing group members	1	Creating a positive relationship and establishing connections among group members, resolving ambiguities and participants' questions, explaining the group's goals and rules.
	2	Narrating negative emotions and searching for positive outcomes in each story at the end.
Examining the adversities and hardships of life	3	Exercise for releasing grudges and forgiveness.
	4	Letter of gratitude to the impactful person in life.
Goal setting in life	5	Sweet fruits of my life (positive meanings in life).
	6	Finding positive activities and memories in life.
	7	Summarizing and integrating group exercises.
Summary and integration	8	Teaching positive thinking and life positivity skills.
	9	Concluding and creating unity in the techniques used with the help of group members.

Implementation

The method of conducting the research was that after approving the research proposal and obtaining the ethics code number IR.IAU.BA.REC.1400.012 from the Islamic Azad University - Bandar Abbas branch (ethics committee in research), the hospital was referred to. After coordinating with the officials and meeting with the patients and providing an explanation about the research, with the available sampling method, among the patients who were willing to participate in the present research, the desired number of samples were selected by observing the entry and exit criteria. They were randomly assigned (based on the numbered list) in the experimental and control groups. In order to comply with the ethical principles of the research in order to protect the rights of the subjects, the necessary clarifications regarding the objectives of the research and the procedure of its implementation were presented to all the subjects. The absence of coercion and the right to participate or not to participate in the research is specified for all participants. Also, all of them were assured that the obtained personal information would remain confidential and that the published data would be without private identifiers and were analyzed in a group manner and with the confidentiality of individual characteristics. First, the pre-test stage was performed. Then, the experimental group participated in positive therapy during 9 sessions of 90 minutes once a week, but during this period, the control group received routine therapy. One week after the completion of the training sessions (the treatment period lasted two months), the post-test phase was conducted for both control and experimental groups. It should be noted that all training sessions were held in full compliance with all health protocols and guidelines. After the end of the treatment period for the experimental group after one week, in order to comply with the ethical principles, two treatment sessions were held for the control group. In line with the ethical principles of the research in order to protect the rights of the subjects, the objectives of the research and the method of its implementation were explained to all the subjects. And all subjects had the right to freely participate in the treatment. Also, all of them were assured that the obtained personal information would remain confidential and that the published data would be without private identifiers and were analyzed in a group manner and with the confidentiality of individual characteristics. SPSS version 24 software was used for analysis, and in the descriptive part, the mean and standard deviation, and in the inferential part, after confirming the statistical assumptions, the multivariate covariance analysis test was used at a significance level of α=0.05.

Results

mean (standard deviation) age in the experimental group was 56.79 (13.51) and in the control group, 54.18 (12.88). There was no significant difference between the two groups in

terms of age. The mean and standard deviation of the pre-test-post-test scores of the research variables of the two experimental and control groups are presented in Table 2. Also, in this table, the results of the Shapiro-Wilks test to check the normality of the distribution of the variables in the groups are reported. According to this table, the Shapiro-Wilks test results are not significant for all variables; Therefore, we can conclude that the distribution of these variables is normal.

Table 2. Descriptive indices of pre-test-post-test scores in experimental and control groups

Variable	Stage	Group	Mean	SD	Shapiro-Wilk	*p*
Rumination	Pre-test	Exp.	70.13	9.42	0.879	0.422
		Control	70.11	7.38	0.578	0.080
	Post-test	Exp.	61.33	9.93	0.924	0.892
		Control	68.80	7.58	0.577	0.360
Distress tolerance	Pre-test	Exp.	32.86	6.44	0.835	0.899
		Control	30.85	4.65	0.654	0.543
	Post-test	Exp.	45.60	5.26	0.517	0.761
		Control	28.53	6.52	0.578	0.943

To investigate the effect of positive treatment on distress tolerance and rumination in patients with chronic hypertension, multivariate covariance analysis was used after confirming the statistical assumptions. The results of the test showed that there is a significant difference between the two groups in the components of distress tolerance and rumination ($p<0.01$, $F=55.44$, Wilks' Lambda=0.18). In order to check which of the experimental and control groups differ from each other in the components of distress tolerance and rumination, the results of univariate covariance analysis are reported in Table 3.

Table 3. The results of univariate analysis of variance in the context of multivariate analysis for the components of distress tolerance and rumination

Variable	Group	Mean	Mean diff.	SE	F	*p*	Effect size
Rumination	Exp.	61.33	7.47	1.98	24.73	0.001	0.48
	Control	68.80					
Distress tolerance	Exp.	45.60	17.07	1.12	75.29	0.001	0.65
	Control	28.53					

According to Table 3, F-statistics for rumination and distress tolerance components are significant. These findings indicate that there is a significant difference between the groups in these components. Also, the effect size in Table 3 shows that the influence of the independent variable factor (difference between the experimental and control groups) explains 48% of rumination changes and 65% of rumination changes and distress tolerance.

Conclusion

The aim of this study was to determine the effectiveness of positive treatment on distress tolerance and rumination in patients with chronic hypertension. The results showed that in the post-test there is a significant difference between the scores of the experimental group and the control group in distress tolerance. The results of the analysis of averages show that positive treatment is effective in increasing distress tolerance of patients with chronic hypertension and has increased distress tolerance scores. The result obtained is in line with the results of previous studies in this field.

Also, Eifert et al. (2009) showed that in the process of positive treatment, the client learns to stop fighting the discomfort related to his anxiety and to exercise control by engaging in activities that bring him closer to his goals and values. Also, Chan (2009) noted that positive people do not only enjoy the result of achieving the goal, but also enjoy the process. Positive people are able to approach complex goals by breaking big goals into smaller goals.

In explaining this finding, it should first be said that in the training sessions, the participants were asked to record the titles of positive experiences in life. This process seems to be effective in thinking about positive aspects and improving emotion control. In fact, positive thinking means having a proper inner balance and maintaining calmness and coolness in the face of problems so that a person can maintain his personal motivation, take appropriate action and feel good about what he is doing. Positive thinking does not mean that you don't pay attention to problems or be falsely optimistic for no reason or generally happy. Ideally, one should write down the problems and then try to solve the problems instead of getting trapped in the crippling loops of unpleasant feelings.

In this regard, Carr (2006) showed that laboratory studies with positive mood induction show that these induced mood states lead to more flexible creativity, thinking and behavior. In addition, in a study on the relationship between character traits and mental happiness, they also found that happy people received higher scores on their motivation to perform functional, cognitive, and motor behaviors. Others found that happy people recall both qualitatively and quantitatively happier memories in their daily lives.

People with high positivity are also more creative in finding alternative ways to achieve goals and are more motivated to pursue them. More importantly, they consider obstacles as challenges and believe that they are able to learn from previous successes and failures to achieve future goals. They choose goals that require more effort. They are confident and focused on their skills as well as their goals (Snyder, 2000).

According to the sampling method available in this research, its generalizations should be done with caution. Another limitation of the present study was the lack of a follow-up period, so it is suggested that researchers consider the follow-up period in future studies and examine the results of the treatment in a long period to ensure the stability of the results. Also, it is better to compare this treatment method with other psychological treatment methods on these patients to check its effectiveness and efficiency compared to other approaches.

Conflict of Interest

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

References

Äärelä J. (2006). Alexithymia behaves as a personality trait over a 5-year period in finnish general population. J Psychosom Res; (61): 275-278.

Bennink, F. (2012). Positive cognitive-behavioral therapy. (A. Khamsa, Trans.). Tehran: Arjmand Publications. (In Persian)

Demers, L.A., Olson, E.A., Crowley, D., Rauch, S.,& Rosso, I. (2015). Dorsal Anterior Cingulate Thickness Is Related to Alexithymia in Childhood Trauma-Related PTSD. Plos One,

Doan, S. N., Son, H., & Kim, L. N. (2018). Maternal and paternal emotional contributions to children's distress tolerance: Relations to child depressive symptoms. *Psychiatry Research.*

Elhai, J. D., Levine, J. C., O'Brien, K. D., & Armour, C. (2018). Distress tolerance and mindfulness mediate relations between depression and anxiety sensitivity with problematic smartphone use. *Computers in Human Behavior*, *84*, 477-484.

Ellis, A. J., Salgari, G., Miklowitz, D., & Loo, S. K. (2018). Distress Tolerance an Approach Behavior? An Examination of Frontal Alpha Asymmetry and Distress Tolerance in Adolescents. *Psychiatry Research.*

Emami, A. S., Woodcock, A., Swanson, H. E., Kapphahn, T., & Pulvers, K. (2016). Distress tolerance is linked to unhealthy eating through pain catastrophizing. *Appetite*, *107*, 454-459.

Heidarian, A., Zahra Kar, K., & Mohsenzadeh, F. (2016). The effectiveness of mindfulness training on resilience and reduction of rumination in women with breast cancer: A randomized controlled trial. Iranian Journal of Breast Diseases, 9(2), 52-45. 10-1. (In Persian)

Kordmirza Nikoozadeh, A. (2016). The effectiveness of positive psychology intervention program and Adlerian group

therapy in enhancing resilience in substance-dependent individuals. Journal of Counseling and Psychotherapy Culture, 2(5), 57-30. (In Persian)

Leyro, T. M., Zvolensky, M. J., & Bernstein, A. (2010). Distress tolerance and psychopathological symptoms and disorders: a review of the empirical literature among adults. *Psychological bulletin*, *136*(4), 576.

Marrero, R. J., Carballeira, M., Martín, S., Mejias, M., & Hernandez, J. A. (2016). Effectiveness of a positive psychology intervention combined with cognitive behavioral therapy in university students. *Anales de psicología*, *32*(3), 728-740.

McGovern, C. M., Arcoleo, K., & Melnyk, B. (2019). COPE for asthma: Outcomes of a cognitive behavioral intervention for children with asthma and anxiety. *School Psychology*, *34*(6), 665–676.

Moberly, N. J., & Dickson, J. M. (2016). Rumination on personal goals: Unique contributions of organismic and cybernetic factors. *Personality and Individual Differences*, *99*, 352-357. P 5

Nazamzadeh, B., Tayebi, S., Maleki Rostamabadi, M., Akbari, H., & Namjoo, F. (2021). Predicting tendency towards risky behaviors based on psychological distress and distress tolerance in delinquent adolescents. Journal of Adolescent and Youth Psychological Studies, 2(1), 23-12. (In Persian)

NicolÒ G, Semerari A, lysaker PH, Dimaggio G, Conti l, D'Angerio S, Procacci M, Popolo R, Carcione A (2011). Alexithymia in personality disorders: correlations with symptoms and interpersonal functioning. *Psychiatry Res*.; (12): 37-42.

Paniccia, M.F., Gaudio, S., Puddu, A., DiTrani , M., Dakanalis, A., Gentile, S., & Ciommo, V.D. (2017). Alexithymia in parents and adolescents with generalised anxiety disorder. *Clinical Psychology*, DOI: 10.1111/cp.12134.

Parsakia, K., Darbani, S. A., Rostami, M., & Saadati, N. (2022). The effectiveness of strength-based training on students' academic performance. *Journal of Adolescent and Youth Psychological Studies*, *3*(3), 194-201.

Shahidi, S., Hassanzadeh, R., & Mirzaian, B. (2021). The effectiveness of acceptance and commitment therapy on psychological inflexibility and distress tolerance in women with psoriasis. Journal of Adolescent and Youth Psychological Studies, 2(2), 173-164. (In Persian)

Simons, J. S., Gaher, R. M. (2005). The distress tolerance scale: Development and validation of a self report measure. *Motivation and Emotion*, 20 (9), 83-102.