

# The role of physical psychotherapy on quality of life in patients with hypertension with alexithymia

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## **Abstract**

*Studies have shown that it is easier for people, who are emotionally capable, to cope with life challenges and therefore they are healthier psychologically. Alexithymia exacerbates vulnerability to physical illness and predisposes to chronic illness. The aim of this study was to determine the role of physical psychotherapy on the quality of life of patients with hypertension with alexithymia. In this clinical trial with a pre-test post-test design, 60 patients with hypertension with alexithymia were purposefully selected from the patients referred to the health centers of Semnan and randomly assigned to the experimental and control groups. The intervention was performed during 1.5 months in the experimental group according to the steps designed in the protocol of physical psychotherapy. Data were collected using the Demographic Questionnaire, Toronto Alexithymia and Quality of Life Questionnaire (WHOQOL-BREF) and analyzed by descriptive, inferential and MANCOVA statistics. In multivariate analysis of covariance, there was a significant difference in the linear composition of alexithymia components and quality of life. Overall, physical psychotherapy has had a significant effect on improving alexithymia, blood pressure and quality of life. Therefore, according to the research findings, it can be said that physical psychotherapy has been effective in improving the quality of life and controlling blood pressure in patients with high blood pressure with alexithymia and performing this treatment in the above patients is recommended as a suitable complementary treatment.*

**Keywords:** *Alexithymia, Physical psychotherapy, Quality of life, Hypertension*

## **Introduction**

For the past two decades, there has been widespread scientific attention to emotion regulation and the impact of emotional dysregulation on physical and mental health. Studies have shown that it is easier for people, who are emotionally capable, to cope with life challenges and

therefore they are healthier psychologically. The theory that medicine and psychology are interrelated has a long history (Syfnvs; Larsen, Brand, Bermond et al, 2003). The concept of alexithymia is rooted in the psychology of emotions and psychosomatic illnesses. Many patients with psychosomatic complaints have problems with emotion self-regulation. This makes more sense when discussing psychosomatic illnesses (Luminet, Bagby, Taylor, 2018). Psychosomatic illnesses are physical illnesses in which psychological factors are effective in initiating or exacerbating them, the most important of which are migraine, chronic colitis, asthma, hypertension, coronary heart disease, gastrointestinal disorders and ulcers(Mattila, Salminen, Nummi&joukamaa, 2006; quoted byShahi, 2014). It should be noted that in the field of mental health, the prevalence has been reported about 53% of physical pain disorders with Alexithymia (Isazadeganand Fathabadi, 2011). The term alexithymia was coined in 1973 by psychotherapist Peter Emanuel Sifneos to describe patients with mental illness, derived from the Greek words alexis meaning lack of words and thymos meaning emotion (Sifneos, 1973). Alexithymia means the inability to express emotions due to a lack of emotional awareness. People with alexithymia are typically unable to identify, understand, or describe their emotions (Taylor and Bagby, 2004; Haviland, 2016). Inadequate or uncontrolled and delayed treatment of this disease is in fact the most important risk factor for heart attacks, heart strokes, kidney failure and other cardiovascular diseases (Liu et al., 2019). By expanding the process of increasing life hope and with aging the populations, as well as the advancement of lifestyles towards the use of unhealthy dietsalong with a little mobility increases day-to-day spread of this problem in the future outlook of the disease further. Out of a total of 58.8 million deaths worldwide in 2004, hypertension was the cause of 12.8% (7.5 million deaths) (Shafi&Shafi, 2017). According to studies conducted in Iran, the prevalence of hypertension in the ages of 30-35 and over 55 years has been estimated at about 23 and 50 percent, respectively (Shamsi, Dehghanniri and Ismaili, 2017), as well as the prevalence in men is estimated to be 1/3 lower than women (Senthil&Krishnadasa, 2016). Rehabilitation is the process of learning to live with a chronic illness or debilitating conditions, and the goal of rehabilitation is to return to the highest possible level of physical, mental, social, and occupational capability (Laitan and Murray, 2014). Scientific evidences have shown that hypertension, due to its close relationship with lifestyle, mental health and quality of life, if not controlled in a timely and appropriate manner, leads to unpleasant complications and ultimately leads to a decrease in quality of life (MasroorRudsari, Dabiri Golchin, ParsaYekta, Haqqani, 2014). It is worth mentioning that recently one of the most important goals of the health care system in the country is to improve the quality of life. Also, with the development and expansion of human societies, the quality of human life has become particularly important (Bayrami, Fathi, Mohammadi-Nasab and Et al., 2017). In a way that the results of health services should not only increase life hope, but also improve the quality of life. In chronic and mental illnesses, quality of life is an indicator that shows how effective the treatment measures have been for the patient, because in many of these illnesses, the goal is not to completely cure people, but to create living conditions in which the person feels calm and secure (Thiel & et al., 2017). The results of the study of Mohammadpour et al. showed that there was a significant negative correlation between

the components of Alexithymia and quality of life ( $P > 0.05$ ). The results of regression showed that difficulty in diagnosing underdeveloped emotions and defense styles can predict a decrease in quality of life in patients with coronary heart disease ( $P > 0.0005$ ). Underdeveloped defense styles and difficulty in recognizing emotions play an important role in predicting the quality of life of coronary heart patients. According to studies, the quality of life of patients with hypertension is often lower than expected; therefore, in various studies, the need for lifestyle changes in these patients has been emphasized (Khezri, Ravanipour, Motamed et al., Considering the widespread prevalence of hypertension throughout the world and Iran and the importance of lifestyle and coping style in these patients based on psychological interventions, the present study aimed to determine the role of physical psychotherapy on quality of life in patients with hypertension with Alexithymia.

### Materials and Method

This clinical trial study with pre-test-post-test design, with a statistical population includes all patients with hypertension who had referred to Semnan health centers to control this disease in 2019. Inclusion criteria included patients who had been diagnosed with hypertension for at least one year and had a clinical record in the city's health centers. People with impaired hearing and communication health, with acute and advanced disease affecting high blood pressure control program such as cancer and unwillingness to cooperate due to withdrawal, death or disease occurrence and diagnosis of new disease are excluded from the study. Thus, the samples were selected from among the patients who referred to the centers for physician visits and periodic examinations. Finally, from among the people with inclusion criteria, 60 people were targeted and determined according to the volume of statistical samples and selected based on the suggestions made to determine the sample size of experimental studies (Besharat, 2007; NaghiNasabArdahai, Karami, Javan et al., 1393; MalekzadehMoghani, 2014). After explaining the objectives of the research and attracting the participation 30 people were randomly divided into two equal groups of experimental and control group; the experimental group, in a period of 1.5 months, in 12 sessions (two sessions of 45-60 minutes per week), based on the model taken from the common theories of physical psychotherapy, including increasing awareness about stress, relaxation, identification of dysfunctional thoughts, cognitive reconstruction, problem solving, assertiveness skills training, anger management, self-management and planning (Terock, Janowitz, Spitzer & et al, 2015), under concurrent intervention and control group only were located under routine blood pressure control of health centers (monthly visits). Information with questionnaires; Demographics, Questionnaire of Life Quality (WHOQOL-BREF<sup>1</sup>) and Alexithymia Toronto Scale (TAS-20<sup>2</sup>) were collected before and 1.5 months after the intervention. World Health Organization Quality of Life Questionnaire: This questionnaire was prepared in collaboration with the World Health Organization and about 15 international centers and is in fact an international benchmark. The short form of this questionnaire was designed by

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<sup>1</sup>World Health Organization Quality of Life Brief Version

<sup>2</sup>Toronto Alexithymia Scale

the World Health Organization (1999) to assess the quality of life, which has 26 questions. This questionnaire measures 4 areas of physical health, mental health, social relationship and environmental health with 24 questions. Each area has 6, 3, 7 and 8 questions, respectively. The first two questions do not belong to any of the categories and assess the state of health and quality of life in general. In each domain, a score of 4-20 is obtained, in which 4 is the worst and 20 is the best condition of the desired field. Nejat et al. (2006) have obtained the alpha coefficient of the questionnaire for a healthy population in the field of physical health 70%, mental health 73%, social relations 55% and environmental communication 84% and they have reported the final coefficient of the retest method after two weeks 70%. Toronto Alexithymia Scale (TAS-20) with 20 questions in three sub-scales measures these items in 5-point Likert scales (strongly agree to strongly disagree): Difficulty in Identifying Feeling (DIF) (7 items), Difficulty in Describing Feeling (DDF) (5 items) and Externally Oriented Thinking (EOT) (8 items); a total score is calculated from three subscales of total Alexithymia (Parker, Taylor, Bagby, 2003; Primmer, 2013) The lower scores are a sign of low and normal alexithymia, and higher scores are a sign of severe and clinical alexithymia (Keefer & et al., 2019). The psychometric properties of the Toronto Alexithymia Scale have been reviewed and validated in numerous studies. (Palmer, Gignac, Manocha & et al., 2005).

### Findings

In Kolmogorov-Smirnov, the distribution of variables was normal ( $P > 0.05$ ) and therefore multivariate covariance analysis was used. Prerequisites for this analysis are the equality of the covariance matrix, which was confirmed by the box test for all components. Due to the use of transformations such as square root and logarithm, this inequality still existed; therefore, in MANCOVA analysis, Pillay effect was used instead of Lambda Wilkes (28). Another presupposition of this test was the equality of error variances that existed due to the linear conversion in the components.

**Table 1: Levene's Test results for equalization of error variances in components**

Significance	Degree of intergroup freedom	Degree of intragroup freedom	Statistics of F	Components	
0/487	58	1	12/321	Systolic pressure	<b>Blood pressure</b>
0/546	58	1	3/782	Diastolic pressure	
0/331	58	1	4/675	Difficulty in diagnosing feelings	<b>Alexithymia</b>
0/689	58	1	1/767	Describing feelings	
0/321	58	1	4/345	Externally oriented thinking	
0/001	58	1	11/220	Physical health	<b>Quality of</b>
0/457	58	1	0/567	Cognitive domain	
0/321	58	1	3/431	Social Relations	

0/325	58	1	0/985	Living environment	life
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According to the preconditions (Table 2), in multivariate analysis of covariance, there was a significant difference in the linear composition of the components of alexithymia ( $P \leq 0.001$ ,  $F = 17.246$  and Pillai's effect=0.478). Physical psychotherapy had a significant effect on improving quality of life ( $P \leq 0.001$ ), alexithymia ( $P \leq 0.001$ ) and blood pressure ( $P \leq 0.001$ ).

**Table 2: Results of analysis of covariance to evaluate the effectiveness of the intervention on the components**

Squares	Significance	Statistics F	Average squares	Degree of freedom	Total Squares	variables
0/521	0/0005	53/31	174/46	1	174/46	Systolic pressure
0/469	0/0005	47/87	153/36	1	153/36	Diastolic pressure
0/301	0/0005	24/91	38/15	1	38/15	Difficult y in diagnosi ng feelings
0/289	0/0005	22/86	34/58	1	34/58	Describi ng feelings
0/261	0/0005	21/24	32/44	1	32/44	Externall y oriented thinking
0/564	0/0005	25/231	38/34	1	38/34	Physical health
0/246	0/0005	32/173	28/69	1	28/69	Cognitiv e domain
0/754	0/0005	16/630	33/55	1	33/55	Social Relation s
0/346	0/0005	63/769	40/37	1	40/37	Living environ ment

**Table 3: Descriptive statistics (mean±deviation standard) of components, by experimental and control groups, before and after intervention**

After intervention		Before intervention		Group variable
Control	Experiment	Control	Experiment	
152/5±12/61	139/0±8/97	158/0±9/51	165/0±7/17	Systolic pressure
71/50±9/74	65/00±6/66	77/50±8/02	83/25±6/54	Diastolic pressure
27/0±3/45	24/0±3/56	28/0±3/86	29/0±3/77	Difficulty in diagnosing feelings
22/0±2/00	18/0±2/14	21/0±2/79	22/0±2/54	Describing feelings
33/0±2/12	30/0±2/15	33/0±1/38	36/0±2/34	Externally oriented thinking
28/43±3/11	25/13±4/52	24/6±2/88	25/26±3/10	Physical health
22/02±3/05	17/17±3/23	16/64±3/11	16/59±2/46	Cognitive domain
11/62±4/22	7/61±3/94	13/03±4/02	7/70±3/69	Social Relations
35/83±4/85	28/93±6/39	29/00±4/51	29/83±4/30	Living environment

### Discussion and Conclusion

The aim of this study was the role of physical psychotherapy on the quality of life of patients with hypertension with alexithymia. The results of this study, like Sarvari (2012) and Gorlich (2018) studies, showed that physical psychotherapy is effective on the neuropsychological characteristics of patients with hypertension with alexithymia (Crawford & Parker, 2013); deep breathing training can increase oxygen supply to the brain and increase the function of active memory, which plays a key role in reasoning and problem solving and is the basis for countless high-level cognitive activities and improves the neuropsychological characteristics (Thoresen & et al., 2016); also, relaxation alone can lead to much better neuropsychological performance on the Wisconsin Card Test (WCST) by reducing stress; because in WCST, focus and attention play an important role and studies, like the results of the present study, have reported the negative impact of anxiety on individual performance (Weber, 2016; Ogrodniczuk, Piper, Joyce, 2011). Habra, Linden, Anderson, Weinberg (2009) also mentioned the effect of physical psychotherapy on salivary cortisol and, consequently, had mentioned the amount of stress (Hatamzadeh, Mollai, Shahidi, 2012).

These results are consistent with the studies of MalekzadehMoghani (2014) and Habra et al. (2009) on the positive effect of physical psychotherapy intervention on improving blood pressure control and reducing Alexithymia signs. The reason for this result can be obtained with attention in the treatment protocol; psychotherapy contributes to greater self-awareness and recognition of emotions related to depression and anxiety and, consequently, to the improvement of emotional style (Taylor, Toderlow, Parker, &Phenley, 2012). This is because the absence or occurrence of problems in identifying, describing, and engaging with individual emotions is highly seen in

alexithymia (Ho, Wong, Lee, 2016). Therefore, with physical psychotherapy, which focuses on understanding and recognizing bodily emotions, it can have a significant effect on the level of alexithymia in the experimental group. On the other hand, such people can hardly distinguish real and genuine emotions from their senses or bodily arousals, and for example, instead of expressing fear emotion, they explain fear arousals such as cold body or dry mouth, so when physical therapy uses body relaxation, people are able to control negative emotions such as fear or anxiety. Therefore, it can have a positive effect on alexithymia during treatment. On the other hand, half of the patients with hypertension are not aware of the disease; this lack of awareness has a great impact on the lack of control of this disease, since part of physical psychotherapy focuses on recognizing bodily emotions and abnormal physical activities, we can hope that these people will have receive a great impact by this treatment, while physical relaxation reduces anxiety and is ultimately associated with lowering blood pressure, so it can be said that physical psychotherapy is positively effective on alexithymia and blood pressure of patients (NaghiNasabArdhani et al., 2014). Among the interventions affecting the quality of life in other studies is a combination of educational and psychological interventions; in other words, physical psychotherapy, which is based on an integrated model of motivational and behavioral change, with these two characteristics, promotes a healthy lifestyle in a cognitive-behavioral way (KhademNekouei et al. , 2014); the main core of this intervention is based on motivational-behavioral models and attitudinal model of social-self-efficacy, which has been developed in accordance with the theory of purposeful behavior (Bagheri, Farhani, Hassanabadi, 2019). According to the obtained results, it can be said that physical psychotherapy has an effective role in reducing anxiety and improving emotional problems and is a suitable complementary treatment for the improvement and control of patients with high blood pressure in alexithymia. Therefore, this treatment can change the lifestyle of people by affecting negative emotions and increase the quality of life and maintaining the health of people. In general, according to the research findings on the effectiveness of physical therapy on the neuropsychological characteristics and quality of life for patients with hypertension with alexithymia, training sessions on the disease can be held in health care providers to increase awareness of patients and decrease the signs of alexithymia and hypertension and increase the quality of life. Health and psychology school planners are also advised to plan for training psychology students to use physical psychotherapy in health care providers, and health care providers are advised to help patients Use physical therapy to improve quality of life and control high blood pressure in alexithymia.

The present study was performed on patients with hypertension with alexithymia; therefore, it is suggested that in future studies, the relationship between the use of physical psychotherapy and the knowledge and attitude of patients with hypertension and other chronic diseases such as cancers and the effect of using physical therapy model with the use of other models in hypertension and other chronic diseases are compared with alexithymia.

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