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Comparison of the Effectiveness of Acceptance and Commitment Therapy (ACT) and Cognitive-Behavioral Therapy (CBT) on the Psychological Capital of Patients with Thalassemia

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Abstract

Introduction: Decreased psychological capital due to the special circumstances of thalassemia patients causes irreparable damage to the patient and the community. The purpose of this study was to compare the effectiveness of acceptance and commitment therapy and cognitive-behavioral therapy on the psychological capital of patients with Thalassemia.

Methods: The research method was quasi-experimental as well as pre-test and post-test design with control group. The statistical population consisted of all Female patient with thalassemia, who refer to the office of Thalassemia Association located in Mohammad Kermanshahi Hospital in Kermanshah city (n=317). The statistical sample was 45 people who were selected by purposive sampling and divided into three groups of 15 persons including two experimental and one control groups. The instruments used in this study included Luthan's Psychological Capital Questionnaire (PCQ) and the protocols based on acceptance and commitment therapy and cognitive-behavioral therapy. One of the experimental groups received acceptance and commitment therapy and another received cognitive-behavioral therapy, while the control group received no training and therapy. After data collection, the results were analyzed by one way analysis of variance (ANOVA) using SPSS21 software.

Results: The results showed that both acceptance and commitment therapy and cognitive-behavioral therapy are effective on the psychological capital of patients with thalassemia. Also, there is a significant difference between effectiveness of acceptance and commitment therapy and that of cognitive-behavioral therapy on the psychological capital of patients with thalassemia such that the former was more effective.

Conclusion: Acceptance and Commitment therapy is more effective for improving psychological capital.

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Introduction:

One of the diseases that causes people to worry about their current and future condition is thalassemia (1). The World Health Organization has identified thalassemia in more than 60 countries as the most common genetic blood disorder in the world (2). Studies have also shown that 3 to 10% of the world's population has a thalassemia gene (3). Thalassemia occurs in almost all races, but areas with high rates are known as the thalassemia belt. Iran is also a country in the thalassemia belt with an average prevalence of 4% and approximately 300 to 500 people are added to this number annually (3). Patients with thalassemia face many physical, psychological and social problems that reduce their quality of life (4). Physical problems such as chronic anemia, bone deformities, short stature, delayed puberty, heart failure, heart arrhythmias, etc. on the one hand and the unpleasant and long treatment regimen on the other hand, affect different aspects of patients' lives. Puts (5). In addition to physical problems, psychological problems such as feelings of inadequacy, anger, anxiety, worry about premature death, depression and low self-esteem are the consequences of this disease (3). Studies have also shown that 80% of thalassemia major patients have at least one psychiatric disorder (6). Thalassemia mortality rates have been significantly reduced with modern treatment. However, this disease affects various aspects of mental health, including the psychological capital of these people (7). Psychological capital of one's belief in one's ability to achieve success (self-efficacy); Creating positive credentials about present and future success (optimism); Having perseverance in pursuing goals and pursuing the necessary strategies to achieve success (hope) and enduring problems and returning to the normal level of performance and even improving it to achieve success (resilience) is (8). Psychological capital is a good source for preventing stress, anxiety and depression (9). Therefore, it is very important to pay attention to therapeutic approaches to promote psychological capital in thalassemia patients.

The results of several studies confirm the effectiveness of commitment and acceptance therapy and cognitive-behavioral therapy on improving mental health, reducing anxiety and depression and consequently increasing the psychological capital of different people (10-17). Cognitive-behavioral therapy refers to those cognitive therapies that mainly focus on identifying, evaluating and correcting different levels of damaged thoughts and beliefs of the patient that are related to his behavior and emotions. In this therapeutic approach, cognitive definitions, erroneous attributions, and low self-esteem are considered, and the goal of this therapeutic approach is to reduce self-condemning attitudes, increase positive attributions, and improve coping skills. In other words, cognitive-behavioral therapy is an intervention that creates

emotional and behavioral change by learning new ways of coping and recognizing thoughts in the individual (18). The commitment-acceptance therapy approach also uses mindfulness, acceptance, and cognitive inconsistency skills to increase psychological resilience (19).

The research shows that although the study of the field of research has been conducted, the effect of the effectiveness of the effectiveness of commitment and acceptance (ACT) and cognitive-behavioral therapy (CBT) on psychological capital, especially on thalassemia patients, is very low. Sharifinjad and Shahbazi in research as the effectiveness of cognitive-behavioral therapy on psychological well-being and cognitive distortions of adolescents in Ahvaz showed that cognitive-behavioral therapy increases adolescent psychological well-being in their areas of admission, autonomy, dominance of environment, individual growth and positive relationship with others. Also, cognitive-behavioral therapy reduced the cognitive distortions of adolescents in Ahwaz city (15). Azizi in a study as comparing the effect of acceptance and commitment therapy with cognitive-behavioral therapy on reducing the anger of depressed students. Acceptance and commitment to reduce the anger and depression of patients with low spiritual psychosocial transformation level compared to the transformation level High spiritual psychological effect (16). Rahimi, Sohrabi and Pirahi concluded that cognitive-behavioral group therapy and group treatment based on acceptance and commitment to quality of life, self-efficacy, cognitive regulation of excitement and reduced symptoms of substance disorder (20). Ten gods, Iranian and Alipour in research as comparing cognitive-behavioral therapy and acceptance therapy and commitment in hemophilia patients concluded that acceptance and commitment treatment in improving the perception of disease is more effective than cognitive-behavioral therapy (21). Electricity, Zare and Abedin in a research show that treatment-based treatment, psychological capital and its subscales were significantly increased in the experimental group participants in comparison with the control group (22). Marchicia and stable in the research as the effectiveness of acceptance and commitment therapy on the hope and happiness of adolescent adolescents showed that acceptance and commitment therapy on hope, factor thinking, strategic thinking and happiness, and this effect in the follow up stage Stable (23). Idadi, Taher Jesus friend, Asgari and Abedi in a research as comparing the effectiveness of acceptance and commitment treatment with cognitive-behavioral therapy on the symptoms of patients with obsessive-compulsive disorder showed that between the acceptance group and the waiting group and the list of waiting groups All scales were significantly different in post-test, and this difference was continued in follow-up (24). Pedram, Mohammadi, Nazari and Aynperstage in research. The method of cognitive-behavioral group therapy is effective in reducing the symptoms of anxiety and depression and increasing the symptoms of hope and provides a reduction in anxiety and depression, which leads to rising psychological capital (25). Varolovitzky, Rialgelbert and Chahard, in research, aimed at investigating the effectiveness of cognitive-behavioral therapy on psychological well-being and cognitive distortions showed that cognitive-behavioral therapy leads to increased psychological well-being and significantly reduced students' cognitive distortions (11). Anonziata, Green and Marax in research concluded that acceptance and commitment therapy was very suitable for depression and anxiety (12). Forrhism, production, chiadri and blockage in a research as the effectiveness of accepting therapy commitment on improving the quality

of life of cancer patients. There is a significant difference between pre-test and post-test, and educational based on commitment and acceptance significantly increased the quality of life of patients (13).

According to studies, so far, no research has been conducted in Iran to compare the effectiveness of these two therapeutic approaches (cognitive-behavioral and commitment and acceptance) in thalassemia patients. Behavior is the psychological capital of thalassemia patients.

Method:

The present study in terms of applied purpose and in terms of research, semi-experimental with pre-test - posttest with control group (Table 1).

Table1. Pre-test design, post-test with control group

Groups	Random selection	pre-exam	independent variable	Post-test
The first experimental group	R	T1	X	T2
The second experimental group	R	T1	X	T2
control group	R	T1	_	T2

The statistical population of this study included 317 female thalassemia patients who referred to the office of the Thalassemia Association located in Mohammad Kermanshahi Hospital in Kermanshah. The sample size was selected based on purposive sampling of 45 people (15 people for each group) and then randomly alternated between the three groups. Psychological treatment, non-addiction to drugs or psychotropic drugs, voluntary participation in research and the age range of 18 to 45 years and withdrawal conditions also included: patients undergoing psychotherapy and being absent more than 2 times in a row. In order to observe ethical considerations, after the end of the test, the control group was treated more effectively. The Lutans Psychological Capital Questionnaire (PCQ) (26) had 24 questions and four subscales of hope (from questions 7 to 12), resilience (from questions 13 to 18), optimism (from questions 19 to 24) and self-efficacy (from questions). 1 to 6) The subject of each material responds on a 6-point scale (strongly disagree to strongly agree) Likert. To obtain the score of psychological capital, first the score of each subscale must be obtained separately and then their sum is considered as the score of the total psychological capital (26). In the study of Khosroshahi et al., The reliability with Cronbach's alpha coefficient was 0.85 and in the study of Sadeghi et al., 0.86 (27). Cronbach's alpha of the questionnaire in the present study was 0.83. In order to collect information from the research samples, first the necessary permission was obtained through the university and then by referring to the office of the Thalassemia Association located in Mohammad Kermanshahi Hospital, the necessary coordination was made with the Thalassemia Association about the research objectives. Then, using the call, among the volunteers who were willing to participate in this study, 152 women were selected (based on the table of Kresji and Morgan) and the necessary explanations were provided about

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the objectives of the research and how to implement and answer the questionnaires. They obtained informed consent to participate in the research and were assured of confidentiality and privacy. Then a questionnaire was distributed to control the effect of fatigue on the research results. After completing the questionnaire, 45 people who scored low in psychological capital were randomly selected as a sample and randomly assigned to three groups of 15 experimental and control (two experimental groups and one control group). The two experimental groups each received interventions with different methods (one group of commitment and acceptance therapy intervention, the second group of cognitive-behavioral therapy intervention), 8 sessions and each session in a week for 2 hours, but the control group received no intervention. Did not receive. At the end of the sessions, the results were compared by taking a post-test from all three groups. At the end, all participants were honored with gifts. In addition, to strengthen the results of the present study, the three groups were almost identical in terms of age, social and economic conditions, cultural level and place of education. To analyze the data, indicators such as mean, frequency, standard deviation, variance were used and to test the research hypotheses, analysis of variance (ANCO) was used. In this study, acceptance and commitment therapy and cognitive-behavioral therapy is a set of activities, trainings and interventions that were performed once a week in 8 2-hour sessions with the aim of affecting the psychological capital of thalassemia patients. An 8-session session was conducted by Kevin Wells and John Sorrell. Also, Beck cognitive model and Michael Free cognitive group therapy model were modeled in preparing the cognitive-behavioral therapy protocol. The protocol of both treatment packages is summarized in Tables (2 and 3).

Table 2. Acceptance and Commitment Therapy protocol

Session	Objective	Content, techniques and methods	Assignments
1	Introduction, familiarity with the basics and fundamentals of ACT and increasing cognitive flexibility	Familiarity with members, determining the terms and conditions of attending in meetings, setting the agenda, changing through the creative hopelessness technique, presenting the assignments of the next session	Answering to the question: "What does your illness experience tell you?" And "what personal treatments have you experienced?"
2	Changing behavior and mindfulness, determining treatment options and paths	Discussion and review of the task of the first session, Raising the issue, Making choice, Introducing the behavioral model and the concept of behavior change, Training Mindfulness, Mindfulness feedback - Presenting the assignments of the next session	Benefit/Cost Analysis of focusing or not-focusing on pain and illness in different life situations by determining a four-part model of thoughts, excitement, behavior, and physiology, Mindfulness exercise based on the proposed model and giving feedback
3	Learning to live with chronic pain with the help of acceptance	Discussion about the assignment of the second session, defining the acceptance, identifying values and separating them from desires	Completing the values evaluation form, doing daily mindfulness exercises, giving feedback

4	Identifying the role of values and action	Assessing the assignment of the third session, describing the distinction between values and goals, expressing the barriers of values and goals with the technique of "bubble in the way" and "swamp" allegories, setting goals and introducing committed action	Writing three related values and its goals and behaviors and presenting in the next session - Doing mindfulness of "body scan" and giving feedback
5	Creating a disintegration of self, making a distinction from the content of thoughts, allowing obstacles to the occurrence of committed action	Assessing the assignments of the fourth session, making disconnection from language threats with the help of the exercise "What are numbers?" and the "mental polarity", discussing the inflexible nature of the mind	Exercising the general mindfulness, doing practices of disconnections
6	Separation of thoughts, feelings and emotions from the process of committed action	Assessing the assignments of the fifth session, reviewing the progress of treatment so far and discussing the remaining issues, articulating the difference between deciding to act	Mindfulness and practice of self-observation, recording the behaviors and in case of discrepancy between values and behavior, aligning them and providing the ability rate to align values and behavior
7	Making commitment to have a worthwhile life, creating satisfaction	Assessing the assignments of the sixth session, Defining the primary suffering and the secondary suffering with the help of the "straggler" allegory technique, Formulating the distinction between evaluation or bargaining and satisfaction, Expressing the obstacles to the formation of satisfaction, Presenting the assignments of the next session	Mindfulness in "Walking", Presenting the one's behavioral pattern in relation to the disease and describing their assessment of it.
8	Lifetime preservation of changes, Relapse prevention, Farewell to members	Assessing the assignments of the seventh session, discussing negative events and preparing for relapse, Reviewing the treatment, developing a plan for the future, Reviewing committed action as a "lifelong task"	Identifying the negative events that you may encounter in the future and recording them, use of treatment methods provided throughout life

Table 3: Cognitive-behavioral therapy protocol

Session	Objective	Content, techniques and methods	Assignments
1	Introduce members to each other and invite participants to discuss their expected goals of	Teaching relaxation techniques, diaphragmatic breathing and providing a definition of emotional regulation and well-being and	Practicing relaxation techniques, diaphragmatic breathing and exploring ways to improve emotional

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	attending these meetings	psychological capital from the perspective of cognitive-behavioral approach and examining ways to improve them presenting the assignments of the next session	regulation and well-being and psychological capital from the perspective of cognitive-behavioral approach
2	Last week's homework review, introduction and explanation of cognition, behavior and emotion activator, ways to recognize irrational thoughts and processing errors and training to re-evaluate thoughts and challenge them as strategies to change irrational thoughts	Discussion and review of the homework of the first session - Training of daring techniques and performing exercises for teaching techniques for recognizing irrational thoughts and processing errors and training for re-evaluating thoughts - Presenting the assignments of the next session	Practice the techniques of daring and recognizing irrational thoughts, processing errors and re-evaluating their thoughts. Practice and provide feedback.
3	Defining and recognizing errors of thinking and negative automatic Thoughts, problem solving training, training to deal with irrational thoughts and reviewing past assignments	Discussion and assignment of the second session - Training of sitting care techniques, problem solving training techniques and training techniques to deal with irrational thoughts - Presenting the assignments of the next session	Practice sitting meditation, problem solving and irrational thoughts training techniques at home and at work and present results.
4	Training Anger management and relaxation techniques ,Review past assignments	Discussion and review of the assignment of the third session - Training of relaxation techniques and training of adaptive coping skills and adaptation to the conditions of life in order to improve the level of well-being and psychological capital - Presentation of the assignments of the next session	Practice relaxation techniques and adaptive coping skills. If there is a problem, write it down and present it in the next session.
5	Re-reading the acquired cognitions and strategies, teaching conscious yoga and examining awareness of pleasant and unpleasant	Discussion and review of the homework of the fourth session - learning how to solve the problem, re-practicing the conscious session (awareness of breathing, body, sounds, thoughts), performing	Practice three minutes of breathing space and conscious yoga and present the result

	events on feelings, thoughts and bodily sensations	conscious yoga exercises and adapting to the conditions of life to improve the level of well-being and psychological capital - presenting the tasks of the next session	
6	Teaching communication skills, assertiveness and reviewing past assignments	Discussion of the fifth session - training in physical relaxation techniques, active responsibility, sitting meditation (presence of mind from sounds and thoughts) and adapting to the conditions of life in order to improve the level of well-being and psychological capital - Presenting the tasks of the next session	Practice sitting meditation and relax to present the result
7	Time management, sleep hygiene, repetition of previous sessions, making a list of enjoyable activities	Discussion and review of the homework of the sixth session- Teaching management techniques on time and adapting to the conditions of life in order to improve the level of well-being and psychological capital - Presenting the homework of the next session	Management techniques to perform time and practice enjoyable activities to provide results
8	Reviewing past assignments, reviewing the entire program, reviewing and discussing programs, and adapting to living conditions to improve well-being and psychological capital	Discussion and homework of the seventh session - training and review of all taught techniques - lifelong homework	Practice the educational techniques provided and adapt them to living conditions in order to improve the level of well-being and psychological capital throughout life

Results:

The results of descriptive analysis showed a significant difference between the mean of psychological capital subscales in both experimental and control groups at pre-test and post-test. There was also a significant difference between the mean of psychological capital variables in both experimental and control groups (pre-test and post-test) (Table 4).

Table 4. The mean values and standard deviation of psychological capital components

Statistical indices	Group	Measurement time	Mean	Standard Deviation
Hope	Experimental	Pre-test	25.24	3.37

		Post-test	30.62	4.52
	Control	Pre-test	25.22	2.14
		Post-test	26.11	3.47
Resilience	Experimental	Pre-test	20.42	3.64
		Post-test	27.64	2.91
	Control	Pre-test	21.14	2.29
		Post-test	21.67	3.57
Optimism	Experimental	Pre-test	21.65	4.59
		Post-test	30.14	7.88
	Control	Pre-test	22.15	6.22
		Post-test	23.14	3.59
Self-efficacy	Experimental	Pre-test	25.64	4.57
		Post-test	30.26	5.97
	Control	Pre-test	24.45	8.68
		Post-test	24.62	6.24
Total	Experimental	Pre-test	100.42	3.64
		Post-test	127.64	2.91
	Control	Pre-test	102.14	2.29
		Post-test	104.67	3.57

before analyzing the hypotheses, the underlying assumptions of analysis of covariance were examined. These assumptions are: 1- Normal or normal distribution of scores, 2- Homogeneity of variances and covariances (Levin and Box test), 3- Stability of the control variable, 4- Execution of scattering before starting the research, 5- Normal correlation of scatterings (correlation Diffusions with each other should not be greater than 0.80), 6- Homogeneity of regression slope: To prove the homogeneity of regression slope, the value of F of the interaction between the variable and independent variable should be calculated Correlation between scattering variable and dependent variable: To prove this, the value of F scattering variable must be calculated. If this index is significant, this assumption is observed, and if it is not significant, it indicates that the improper scattering variable is selected.

Table 5 shows the results of the Kolmogorov-Smirnov test:

Table 5: Kolmogorov-Smirnov test for normality of research variables

group	Indicator	N	Kolmogorov-Smirnov test	P-value	result
Experiment - Pre-test	Psychological Capital	15	0/165	0/111	normal
Experiment - Post-test	Psychological Capital	15	0/286	0/96	normal
Control- Pre-test	Psychological Capital	15	0/119	0/087	normal

Control- post-test	Psychological Capital	15	0/187	0/114	**normal**

Considering that the significance level of Kolmogorov-Smirnov test in the above table is more than 0.05 for research variables, so the distribution of research variables is normal and parametric tests are used to examine them. Table 6 also shows the test results. A box has been presented for the default test of similarity of covariances of research variables in experimental and control groups.

Table 6: Box test results for the assumption of covariance homogeneity in experimental and control groups

آزمونBox's M	
Box's M	59/26
F	1/25
P	0/084

My test results. Box indicated similarity of covariances in experimental and control groups (p = 0.084, F = 1.25, Box = 26.26). Table 7 shows the results of Levin test for the default test of homogeneity of variances of research variables of experimental and control groups in the population.

Table 7: Levin test results for assuming homogeneity of variances of research variables of experimental and control groups in the community

	F	Df1	Df2	P
Psychological Capital	42	2	0/52	0/507

Table 7 shows that the variance of experimental and control groups in psychological capital is not significant, therefore the assumption of equality or homogeneity of variances of the variables score is confirmed and the null hypothesis for equality of variance of scores of the two groups in psychological capital is confirmed. Table 8 shows the results of the Bartlett sphericity test for the default test for the normal correlation of the scatter variables or pre-tests with each other.

Table 8: Results of Bartlett and Camus sphericity test (KMO)

Sphericity test results		**)KMO(**
p	χ^2	**Sample adequacy**
0.031	**21/44**	**0/58**

Table 8 shows that the Chemo index (KMO) is equal to 0.58 and the value of the chi-square calculated for the Bartlett sphericity test is 21.44, which is significant at the level of p <0.05, so it can be said that there is an alignment between co-scattering variables. There are no multiples and the correlation of the diffusers with each other is normal.

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The assumption of regression homogeneity is a key issue in covariance. It should be noted that in this study, the post-test of psychological capital was considered as a dependent variable and the pre-test was considered as an auxiliary variable (covariates). The homogeneity of the slopes will be assumed when there is equality between the auxiliary variable (pre-test in this study) and the dependent variable (post-test) at all levels of the factor (experimental and control groups). What will be considered is a meaningless interaction between dependent and auxiliary variables (Kuwaites). In this study, before analyzing the data, in order to examine the homogeneity of regression slopes, there should be equality between the auxiliary variable (pre-test) and the dependent variable (post-test) at the operating levels (experimental and control groups).

Table 9: Test results of the default homogeneity of regression scales of research variables of groups in the community

Variable	F	p
psychological capital	1/09	0/512

Table 9 shows that the F value of the interaction is not significant for running capital. Therefore, the assumption of homogeneity of regression slopes is confirmed. After observing all the preconditions of covariance, the hypotheses are examined below.

The results showed that by eliminating the effect of pre-test psychological capital scores as a covariate variable, the main effect of independent variable (acceptance and commitment therapy) on post-test psychological capital scores was significant (Partial η^2= 0.665, P<0.05, F=53.601). In other words, ACT is effective on the psychological capital of patients with thalassemia (Table 10).

Table 10. Results of Covariance analysis for psychological capital scores upon ACT

Source of Changes	Sum of squares	Degree of Freedom	Mean of squares	F	Sig	Partial Eta squared ($\boldsymbol{\eta^2}$)
Constant	1847.37	2	923.68	43.34	0.000	0.761
Intercept	258.803	1	258.803	12.543	0.001	0.417
Pre-test	1128.139	1	1128.139	53.087	0.000	0.657
Group	1138.976	1	1138.976	53.601	0.000	0.665
Error	684.208	27	25.341			
Total	70184	30				
Modified total	2420.561	29				

As it can be seen from Table 3, one-way ANCOVA showed that by eliminating the effect of pre-test psychological capital scores as a covariate variable, the main effect of the independent variable (cognitive-behavioral therapy) on post-test psychological capital scores is significant (F=161.24, Partial η^2=0.86, <0.05). Therefore, cognitive-behavioral therapy also affects the psychological capital of patients with thalassemia (Table 11).

Table 11. Results of Covariance analysis for psychological capital scores upon CBT

Source of Changes	Sum of squares	Degree of Freedom	Mean of squares	F	Sig	Partial Eta squared (η^2)
Constant	1988.436	2	994.218	36.3	0.000	0.784
Intercept	83.22	1	83.22	8.37	0.005	0.248
Pre-test	1223.43	1	1223.43	128.61	0.000	0.744
Group	1722.47	1	1722.47	161.24	0.000	0.86
Error	249.62	27	9.245			
Total	74811	30				
Modified total	2498.38	29				

Scheffe post hoc test was used for pairwise comparison of mean values. The results showed a difference between the effectiveness of ACT and CBT on psychological capital improvement. Given the results, the effectiveness of ACT is greater than that of CBT (Tables 12).

Table 12: Scheffe post hoc test results for differential scores of psychological capital [total score]

Group (A)	Group (B)	Difference of means (A-B)	Standard error
ACT	Control	27.00 **	4.744
CBT	Control	20.42 **	3.174
ACT	CBT	14.29 **	3.223

** P<0.01

Discussion and Conclusion:

The aim of this study was to compare the effectiveness of commitment-based therapy and cognitive-behavioral therapy on psychological capital of thalassemia patients in Kermanshah. The results of the first hypothesis showed that commitment-based and acceptance therapy is effective on the psychological capital of thalassemia patients. This finding is in line with the results of Rajabi and Izdkhasti researches; Barqi, Zare and Abedin; Marble and lasting taste; Force, Lane, Chiaruchi, and Black College; Anunziata, Green, and Marx, all of whom have shown in their research that commitment-acceptance therapy is effective in increasing psychological capital and reducing psychological damage such as anxiety (28,22,23,13,12). Explaining the findings of the present study, it can be said that acceptance and commitment therapy is a therapeutic approach that helps the patient to explore the ways in which they

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respond to their experiences (29). In this study, the therapist taught thalassemia patients how to increase their psychological connection with their thoughts and feelings. It also provided opportunities for them to practice these skills. Therefore, based on the training of these skills and supporting factors, it can be said that the set of measures has been to increase psychological capital.

Cognitive-behavioral therapy was also effective on the psychological capital of thalassemia patients. This means that cognitive-behavioral therapy can increase the psychological capital of thalassemia patients. The results of this research with the research results of Pedram; Kahrazei, Danesh and Heidarzadegan; Hemmati, Ahangarian, Ahmadpanah and Ashouri, Azizi and Flugel, who all showed in their research that cognitive-behavioral therapy is effective in increasing patients' psychological capital, are consistent (25,30,31,16,32). Explaining this finding, it can be said that thalassemia has a negative effect not only on physical function but also on mental, psychological and social function. These patients face chronic and permanent stress, and prolonged exposure to stress can cause anxiety, depression, and a decrease in psychological capital. In cognitive-behavioral therapy, thalassemia patients learned how to correct their reactions. Muscle relaxation exercise also reduces the stress and activity of the sympathetic system or the anxious response to stress from thalassemia. Overall, cognitive-behavioral therapy has been found to be helpful in increasing psychological capital, and cognitive-behavioral therapy has effectively increased the psychological capital components of thalassemia patients.

Another finding was the greater effectiveness of commitment and acceptance therapy than the effectiveness of cognitive-behavioral therapy on the psychological capital of thalassemia patients. The results showed that the effectiveness of commitment-based therapy and acceptance on all components of psychological capital is greater than the effectiveness of cognitive-behavioral therapy. This finding is in line with the results of Alipour's research; Haddad Ranjbar; honey; Izadi et al.; Deh Khodai, Iranian and Alipour; Marmarchinia and sustainable taste, which all concluded in their research, the effectiveness of commitment-based therapy and acceptance on patients' psychological capital is greater than the effectiveness of cognitive-behavioral therapy (17,14,16,24,21) and the results of these studies conforms that. Explaining this finding, it can be argued that the key goal of commitment and acceptance therapy was to support patients in accepting feelings and thoughts as they are, not as they should be. In the approach of acceptance and commitment, unlike the approach of cognitive-behavioral therapy, the content of thoughts, feelings and bodily sensations is not examined, but the ways in which people deal with their experiences. Through this approach, patients learned that the challenge should be and reduced conflict with beliefs. This is based on the premise that the process of communicating with thoughts or emotions exacerbates problems. Another point is that the treatment based on acceptance and commitment to and the flexibility that it creates in the person makes the person more resistant and efficient against psychological problems, so it can be concluded that people who participated in the treatment based on commitment and acceptance compared to cognitive therapy. They enjoyed higher psychological improvement. The limited statistical population of the present study to a specific and limited geographical area can be cautious about generalizing the results. Also, the use of a therapist and his assistance

in the initial evaluation, presentation of two interventions in this study and secondary evaluation that can be accompanied by biases were among the limitations of the present study. However, the present study was one of the first studies to study specific patients with thalassemia and the results of this study can be used in future studies and matching the results. Doing similar research with different tools as well as designing a model with evaluators and different treatment costs from the researcher and comparing the results is also suggested. Screening and identifying thalassemia patients with mental disorders in the early stages of diagnosis and treatment and referring them to a psychologist can be effective in preventing and reducing the psychological problems of this group. Another suggestion is to teach commitment-based and acceptance therapy in educational centers to increase the psychological capital of thalassemia patients in order to avoid wasting time and money.

Conclusion:

Considering the importance of psychological capital in the lives of all people, especially thalassemia patients, in order to improve the level of psychological capital of thalassemia patients, treatment based on commitment and acceptance can be used.

Research Applications:

Use in medical and psychological centers to increase the level of psychological capital of thalassemia patients Use for researchers in the field of psychology.

Ethical considerations:

Subjects completed and signed a written consent form and announced their readiness to participate in the study. In order to observe ethical considerations, after the end of the experiment, the control group underwent commitment and acceptance treatment for 8 sessions.

Limitations: One of the most important limitations of this study is that the sample of the present study is limited to a specific geographical area, with a limited number and voluntarily and purpose-based that the mentioned conditions face the generalization of the results with caution.

Conflict of interest:

No conflict of interest has been expressed by the authors Research.

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References

References

1-Babaei Monaghi MM., Khaliqkhah A., Zahed A.. Comparison of learning strategies, hard work and concern of patients with thalassemia and individuals. Nasim Wellness Quarterly. 2014; 3 (3): 18-7. (Persian).

2- The World Health Organization. Multi country Study on women's health and domestic violence against women, Initial results on prevalence, health outcomes and women's responses. Summary report, WHO Press, Switzerland, Retrieved from, 2012

Family and health Quarterly, vol11, Issue 2, Summer 2021, ISSN: 2322-3065
http://journals.iau-astara.ac.ir, D. O. R: 20.1001.1.23223065.1400.11.2.2.7

3- Mahari, B.. Evaluation of Educational-Supportive Intervention to Improve Quality of Life in Adult Thalassemic Patients, PhD Thesis in Health Education and Health Promotion, Faculty of Health, Tehran University of Medical Sciences.2017. (Persian).

4-Aydin B., Yapavk I., Akarsu D., Okten N., Ulgen M. Psychosocial aspects and psychiatric disorders in children with thalassemia major. Acta Pediatrics Japan, 1997;39(3): 354-357.

5-Hosseini SH., Khani H., Khalilian A., Vahidshahi K. A comparative study of mental health of patients with beta thalassemia major aged 15 to 25 years referred to Bu Ali Sina Hospital .2006; 17 (59), 60-51. (Persian).

6-Messina G., Colombo E., Cassinerio E., Ferri F., Curti R., Altamura C, Cappellini MD. Psychosocial aspects and psychiatric disorders in young adult with thalassemia major. Intern Emerg Med, 2008; 3(4):339-43.

7- Saroei M., Farhand S., Amini M., Hosseini S.M. Relationship between family communication patterns and personality traits with psychological well-being mediated by resilience in my patients. Journal of Psychological Methods and Models.2013; 3 (11), 17-3851. (Persian).

8- Kang H., Busse J.. Impact of service climate and psychological capital on employee engagement: The role of organizational hierarchy. Sport Management Review, 2018; 22(1),108-125.

9- Xirui Li, Dan Kan, Li Liu, Meng Shi, Yang Wang, Xiaoshi Yang, Jiana Wang, Yang Wang, Ying Chang, Jialiang Fu and Lie Wang. Work-family conflict and burnout among Chinese female nurses: the mediating effect of psychological capital. BMC Public Health. 2012; 4(12): 915-922

10-Dickerson JF., Lynch FL., Leo MC, DeBar LL., Pearson J., Clarke GN.. Cost-effectiveness of Cognitive Behavioral Therapy for Depressed Youth Declining Antidepressants. American Academy of Pediatrics. 2018; 141, 1-11

11- Varkovitzky RL., Gilbert SE., Chard KM.. Cognitive processing therapy and trauma-related sleep disturbance. Sleep and Combat-Related Post Traumatic Stress Disorder, 2018; 1(1), 293-301.

12- Annunzia A.J., Green JD., Marx BP.. Acceptance and commitment therapy for depression and anxiety. Encyclopedia of Mental Health. Second edition. 2016; 1-10.

13- Feros DL., Lane L, Ciarrochi J, & Blackledge JT.. Acceptance and Commitment Therapy (ACT) for improving the lives of cancer patients: a preliminary study. Psycho- Oncology, 2013; 22(2), 459-464.

14- Haddad Ranjbar S.. The effectiveness of educational program based on cognitive-behavioral approach on academic excitement of students with self-defeating academic behaviors, educational strategies in medical sciences, 2018.11 (1): 108-117. (Persian).

15- Sharifinejad R., Shahbazi, M. The effectiveness of cognitive-behavioral therapy on psychological well-being and cognitive distortions of adolescents in Ahvaz, psychological methods and models .2018; 9 (33), 123-107. (Persian).

16-Azizi S.. Comparison of the effect of acceptance and commitment-based therapy (ACT) with cognitive-behavioral therapy (CBT) on reducing the anger of depressed students,

according to their level of psychological development, PhD thesis in psychology, Tarbiat Modares University, Faculty of Humanities, 2018. (Persian).

17-Alipour M.. Comparison of the effectiveness of acceptance and commitment-based therapy, emotion-oriented cognitive therapy and training to increase couples coping skills on body deformity, health anxiety, mental well-being and lifestyle-promoting health of women with breast cancer PhD thesis General Psychology, University Orumieh.2019. (Persian).

18- Carroll K.M, Rounsanille BJ.. Therapies research in the addictions. Addiction. 2015;102:850- 862.

19- Lee EB., An W., Levin ME., Twohig M P.. An initial meta- analysis of Acceptance and Commitment Therapy for treating substance use disorders. Drug and Alcohol Dependence, 2015; 155,1-7.

20- Rahimi A., Sohrabi N., Sarghand S.. Comparison of the effectiveness of cognitive-behavioral group therapy and group therapy based on acceptance and commitment on quality of life, self-efficacy, cognitive emotion regulation and reduction of symptoms of substance use disorder in patients consuming stimulants. PhD Thesis, Marvdasht Azad University.2018. (Persian).

21- Deh Khodaei S., Iranian Z., Alipour A.. Comparison of cognitive-behavioral therapy and treatment based on acceptance and commitment in following treatment, disease perception and quality of life in hemophilia patients, M.Sc. Thesis, Payame Noor University, South Tehran.2017. (Persian).

22- Barghi Z., Zare H., Abedin M. The Effectiveness of Acceptance and Commitment Therapy (ACT) on Psychological Capital in Patients with Esophageal Cancer, Journal of Health Psychology.2015; 4 (14), 128-113. (Persian).

23- Marmarchinia M., Zoghi Paydar MR.. The Effectiveness of Acceptance and Commitment Therapy on Hope and Happiness of Female Adolescents Under Welfare, Journal of Applied Psychology, 2017; 1 (41) 174-154. (Persian).

24- Izadi R., Neshat Doost T., Asgari H., Abedi MR. Comparison of the effectiveness of acceptance and commitment therapy and cognitive-behavioral therapy on the symptoms of patients with obsessive-compulsive disorder. Psychological Achievements, 2014;12 (1): 33-19. (Persian).

25- Pedram M., Mohammadi M., Naziri Q., Ainparast N.. The effectiveness of cognitive-behavioral group therapy on the treatment of anxiety disorder, depression and creating hope in women with cancer. Journal of Women and Society .2010; 1 (4), 34-61. (Persian).

26- Luthans F., Avolio BJ.. Positive psychological capital: Measurement and1relationship with performance and satisfaction. Pers Psychol. 2007; 6:138-146.

27- Sadeghi D., Amin Fallah Z., Momeni H.. Predicting students' academic engagement based on psychological and social capital, Scientific Journal of Education and Evaluation (Quarterly),2018; 12 (47), 117-140. (Persian).

28- Rajabi S., Izdkhasti F.. The Effectiveness of Acceptance and Commitment Therapy on Anxiety and Depression in Women with Multiple Sclerosis, Journal of Clinical Psychology. 2014; 6 (1), 29-48. (Persian).

29- Prevedini AB., Presti G., Rabitti E., Miselli G., and Moderato P.. Acceptance and commitment therapy (ACT): the foundation of the therapeutic model and an overview of

Family and health Quarterly, vol11, Issue 2, Summer 2021, ISSN: 2322-3065
http://journals.iau-astara.ac.ir, D. O. R: 20.1001.1.23223065.1400.11.2.2.7

its contribution to the treatment of patients with chronic physical diseases, Giornale Italiano Di Medicina Del Lavoro Ed Ergonomia Journal; 33(1 Suppl): 2011; 53-63.

30- Kahrazei F., Danesh E., Heidarzadegan A.. The effectiveness of cognitive therapy behavior in reducing the psychological symptoms of cancer patients (short report). Zahedan Medical Sciences Research. 2011;14 (2) .110-115. (Persian).

31- Hemmati A., Ahangarian, Z., Ahmadpanah M., Ashouri A.. Comparison of the effectiveness of three methods of drug therapy, cognitive group therapy and desensitization through reprocessing eye movements on reducing depression in veterans, Quarterly Journal of Hamadan School of Nursing and Midwifery. 2011; 20 (2), 31-22. (Persian).

32- Flugel K.F.. Measurement of quality of life and participant experience with the mindfulness-based stress reduction program. Complementary Therapies in Clinical Practice .2010; 19:36-40.