TMP UNIVERSAL JOURNAL OF RESEARCH AND REVIEW ARCHIVES

VOLUME 4 | ISSUE 1 | YEAR 2025 | JAN – MAR 2025

RECEIVED DATE	ACCEPTED DATE	PUBLISHED DATE
02/01/2025	23/01/2025	06/02/2025

Article Type: Research Article

Available online: www.tmp.twistingmemoirs.com

ISSN 2583-7214

THE EFFECT OF TREATMENT BASED ON ACCEPTANCE AND COMMITMENT ON SELF-COMPASSION OF PEOPLE WITH DIABETES

[1]Bahareh Bakhtiari

[1] *MA, Department of General Psychology, Boroujerd Branch, Islamic Azad University ,Borujerd , Iran*

Corresponding Author: Bahareh Bakhtiari

ABSTRACT

The present study was conducted to investigate the effect of treatment based on acceptance and commitment to self-compassion of people with diabetes. The research method was quasi-experimental (control group and experimental group). The statistical population of the present study was all type 1 diabetic patients among those who were referred to the hospitals of Borujerd City in 2023. The sample size of the research was 40 people (20 people in the experimental group and 20 people in the control group), which was done using a random sampling method. The present research was conducted using the self-compassion questionnaire (Naf, 2003; quoted by Khosravi et al., 2012). One-way analysis of variance Test was used to analyze the data. The results of the data analysis showed that participating in therapy classes based on acceptance and commitment to self-compassion of people with diabetes improved their self-compassion. Therefore, it is concluded that treatment based on acceptance and commitment is effective in any self-compassion in diabetic patients.

Keywords: Treatment based on acceptance and commitment, self-compassion, diabetic patients

INTRODUCTION

Diabetes is one of the most common metabolic disorders worldwide, with its prevalence increasing and becoming one of the major public health concerns of the 21st century. Diabetes is a heterogeneous group of metabolic diseases characterized by chronic high blood sugar and disturbances in the metabolism of carbohydrates, fats, and proteins, leading to defects in insulin secretion or insulin action. The World Health Organization (WHO) in 2000 estimated the prevalence of diabetes to be around 171 million people and projected that this number would rise to 438 million by 2030. Studies show that 2 to 3.5 million people, or more than 2% of

Iran's population, are also affected by diabetes (Soltani Zadeh et al., 2018). In recent decades, alongside physical complications, the psychological aspects of diabetes have drawn the attention of specialists. Studies have also shown that complications are common in these patients, especially long-term complications such as cardiovascular, ocular, renal, psychological, individual, familial, and social issues. Addressing all these problems imposes significant direct and indirect costs on patients and governments. Among the most important complications mentioned are psychological disorders, which negatively impact the patient's ability to perform and maintain recommended medical care (Arigo et al., 2014). Psychological problems are observed in more than a quarter of hospitalized patients in internal medicine wards and are more prevalent in diabetic patients compared to the general population. However, they are often overlooked or misdiagnosed by physicians, or their psychological issues are inappropriately attributed to physical illnesses. Most psychological issues in patients are due to the burdens imposed by diabetes, such as dietary restrictions, reduced physical activity, invasive blood sugar monitoring, daily insulin injections, chronic physical complications, hospitalizations, and reduced life expectancy (Behrooz et al., 2016).

One of the important issues in diabetic patients is self-compassion. Compassion is a relatively new concept in psychology that has expanded knowledge in the fields of mental health and interpersonal relationships, attracting the attention of psychologists over the past decade (Loma et al., 2015). In general, compassion is a multidimensional construct with four main aspects: cognitive, emotional, behavioural, and motivational (Aslani & Eskandari, 2018). Self-compassion can be defined as a positive stance toward oneself when facing difficulties. It is considered a trait and an effective protective factor for fostering emotional resilience, leading to the recent development of therapeutic approaches aimed at enhancing self-compassion (Neff & Germer, 2013). The chronic nature of diabetes affects the physical, psychological, and social functioning of the individual. Self-compassion can be associated with coping with difficult life events, such as chronic illnesses (Momeni et al., 2013), and given the chronic symptoms experienced by diabetic patients, examining self-compassion in these individuals can be deemed significant. Research findings indicate that self-compassion improves in response to various interventions (Yadavaya et al., 2014).

Therefore, in addition to traditional clinical treatments, various psychological therapies have been developed over the years to improve self-compassion in these patients. The psychological interventions commonly used in this area include mindfulness and physical techniques, behavioural approaches, and cognitive-behavioural therapy; however, today we are encountering the third generation of these therapies, which can broadly be referred to as acceptance-based models, such as Acceptance and Commitment Therapy (ACT) (Hayes et al., 2012). In these therapies, rather than attempting to change thoughts, the focus is on enhancing the individual’s psychological relationship with their thoughts and emotions. One of the therapies that has recently attracted significant interest from researchers is Acceptance and Commitment Therapy (ACT) (Thomas et al., 2014).

This method aims to improve individuals’ psychological concerns by utilizing their thoughts and feelings. Acceptance and Commitment Therapy (ACT) is one of the most common forms of therapy (Mousavi et al., 2018). In this therapy, the initial effort is to enhance the individual’s psychological acceptance of their mental experiences (thoughts, feelings, etc.) while concurrently decreasing ineffective controlling behaviours. The patient is taught that any action aimed at avoiding or controlling these mental experiences is likely to be ineffective or even counterproductive, exacerbating those experiences. Therefore, these experiences should be fully accepted without any internal or external reactions to alleviate them. In the second phase, the individual’s psychological awareness in the present moment is increased; that is, the individual becomes aware of all their psychological states, thoughts, and behaviours in the present moment. In the third phase, the individual learns to separate themselves from these mental experiences (self-distancing), allowing them to function independently of these experiences. The fourth phase involves efforts to reduce excessive focus on their physical

embodiment or the personal narratives that the individual has constructed about themselves. The fifth phase assists the individual in identifying and clearly defining their core personal values, and converting them into specific behavioral goals (clarifying values). Finally, the last phase focuses on creating motivation for committed action; that is, engaging in actions directed toward the defined goals and values while accepting mental experiences. These mental experiences can include irrational thoughts, obsessions, anger, stress, anxieties, social disorders, and so forth (Thomas et al., 2014).

Acceptance and Commitment Therapy (ACT) is a promising method for improving quality of life and lifestyle, as well as preventing disease progression (Spatola et al., 2014). The primary goal of ACT is to create psychological flexibility; that is, to enable individuals to choose actions among various options that are more appropriate, rather than acting solely to avoid thoughts, feelings, memories, or unwanted impulses that may be imposed on them (Hayes et al., 2012). A major advantage of this approach, compared to other psychotherapies, is its consideration of motivational aspects alongside cognitive factors, which leads to a more effective and sustained impact of therapy (Anvari, 2013).

Hafman and colleagues (2007) also found that multimodal therapeutic approaches, one of their components based on cognitive interventions, have significantly greater short-term and long-term effects on pain and improvement in individuals' daily functioning and productivity. Umann (2007), by examining acceptance-based interventions such as acceptance and commitment therapy in patients suffering from chronic pain, observed that the effectiveness of these new approaches does not stem from cognitive-behavioural interventions, but they do have an acceptable efficacy and can be considered alternative therapies. McCracken and Vowles (2004) highlighted the impact of acceptance and commitment therapy on patients with chronic pain, indicating that after the implementation of therapeutic plans, patients showed improvements in various indicators, including pain experience, depression, anxiety, dysfunction, occupational status, and physical functioning, compared to before the therapy.

Considering the aforementioned points, it can be said that the high prevalence of diabetes in society, along with depression, anxiety, stress, and low quality of life, inevitably results in multiple referrals to psychiatrists and psychologists. This leads to feelings of hopelessness and a sense of being stuck, where patients become overly dependent on family members and others who care for them. Conversely, detachment from family and society causes individuals to revert to introversion and adopt emotionally avoidant and anxious coping styles, such as absences from work, increased medical costs, financial pressure on family and friends, etc. All of these factors may lead individuals to overestimate their illness and distress and perceive themselves as incapable of coping with it. Consequently, these stresses may pressure patients to consider self-harm or suicide. Moreover, at the societal level, there are costs imposed on healthcare systems and insurance services that require greater attention to chronic diseases, particularly diabetes, and appropriate treatments. Given the established effectiveness of new psychological therapeutic methods such as Acceptance and Commitment Therapy (ACT), which is a relatively brief and cost-effective treatment, the results of this study are significant. Therefore, the present research aims to investigate the efficacy of Acceptance and Commitment Therapy on self-compassion symptoms in diabetic patients.

Method

In the present study, a quasi-experimental method (with control and experimental groups) was utilized. The statistical population consisted of all individuals referred to specialized clinics and government hospitals in Borujerd County during the summer of 2019 and diagnosed by internal medicine physicians as having type 1 diabetes. The sample size for the study consisted of 40 participants (20 in the experimental group and 20 in the control group), selected through random sampling. Additionally, due to the training on the Acceptance and Commitment Therapy (ACT) approach for the subjects of this research, the workshop instructor provided ACT training to the experimental group over 8 sessions (one session each week, with each

session lasting 90 minutes). The control group did not receive any interventions during this period. Each session began by outlining the objectives of that session, followed by the relevant topics. Group members engaged in thinking, discussion, and exchange of ideas regarding the material presented. At the end of the intervention, both groups responded to the questions again to obtain post-test scores. The data collected were analyzed using multivariate covariate analysis.

Table 1. Summary of the Structure and Content of Acceptance and Commitment Therapy Sessions Based on the Framework of Martell and Kaplan (2015)

Duration	Goals	Meetings
60 minutes	Setting group goals and rules, introducing group members to each other, defining acceptance and commitment, and discussing their necessity in life.	Session one
60 Minutes	Review of experiences from the previous session and gathering feedback from patients; discussion about their experiences and evaluating them; assessing the individual's willingness to change; examining patient expectations of ACT therapy; fostering a creative therapeutic environment; relaxation and acceptance; summarizing the discussions raised in the session and assigning a home task.	Session two
60 Minutes	Identifying unproductive control strategies and understanding their futility; explaining the concept of acceptance and its differences from concepts such as failure, despair, avoidance, and resistance; discussing acceptance as an ongoing process rather than a static one; addressing problems and challenges related to accepting diabetes; summarizing the discussions from the session and reviewing the next session's exercises; assigning a home task.	Session three
60 Minutes	Application of identification techniques; intervening in the functioning of problematic language patterns and metaphors; weakening self-alliance with thoughts and emotions; relaxation and reviewing experiences from the previous session as well as gathering feedback from patients; behavioural commitment and undertaking responsibilities; summarizing the discussions from the session and reviewing the next session's exercises; assigning a home task.	Session four
60 Minutes	Indicating the differentiation between self, inner experiences, and behaviour, observing self as a context, reducing self-awareness concepts and expressing self. In these exercises, participants will focus on self-activities (such as breathing, walking, etc.). Summarizing the discussions from the session and reviewing the next session's exercises; assigning a home task.	Session five
60 Minutes	Reviewing experiences from the previous session and gathering feedback from patients; identifying the life values of patients and emphasizing and focusing on these values and their choice power; using mindfulness techniques with an emphasis on the present moment; relaxation and acceptance; summarizing the discussions from the session; reviewing the next session's exercises and assigning a home task.	Session six
60 Minutes	Reviewing each individual's values and deepening previous concepts; explaining the differences between values, goals, and common mistakes in choosing values; discussing potential internal and external obstacles to pursuing values; then, participants will identify three of their most important values and determine goals they wish to pursue each value, specifying actions/behaviours they intend to undertake to achieve those goals; summarizing focus on	Session seven

Duration	Goals	Meetings
60 Minutes	results. Understanding the essence of commitment and willingness (learning to commit to action); identifying behavioural plans aligned with values and creating commitments to act on them; discussing the concept of relapse and strategies for coping with it; reviewing assignments and summarizing sessions along with references; sharing experiences among group members, including achievements and unmet expectations; finally, inviting patients to participate in a gratitude group and evaluating their experiences..	Session eight

Measuring tools

Neff Self-Compassion Scale (2003): This questionnaire was developed by Neff in 2003. The scale consists of 26 questions divided into 6 subscales: self-kindness (5 items), self-judgment (5 items), common humanity (4 items), isolation (4 items), mindfulness (4 items), and over-identification (4 items). The Cronbach's alpha for these subscales reported in the study by Rostami et al. (2015) is as follows: self-kindness (0.81), self-judgment (0.79), common humanity (0.84), isolation (0.85), mindfulness (0.80), over-identification (0.83), and the overall scale (0.76). Furthermore, the validity of this scale was confirmed using factor analysis (Khosravi et al., 2013). Results from the research conducted to determine content validity through expert opinions indicate that the questionnaire has content validity, and exploratory factor analysis is currently in progress. The scoring method is based on a 5-point Likert scale, ranging from (1 = strongly disagree to 5 = strongly agree).

Findings

Based on the results obtained from Table 2, it was determined that the mean and standard deviation of the self-kindness component in the experimental group (pre-Test) were 13.80 and 1.67, respectively; in the control group (pre-Test) they were 14.25 and 1.74, respectively; in the experimental group (post-Test) they were 15.45 and 0.94, respectively; and in the control group (post-Test) they were 14.30 and 1.71, respectively. Additionally, the mean and standard deviation of the self-judgment component in the experimental group (pre-Test) were 14.40 and 1.63, respectively; in the control group (pre-Test) they were 14.15 and 1.46, respectively; in the experimental group (post-Test) they were 15.60 and 1.18, respectively; and in the control group (post-Test) they were 14.05 and 1.19, respectively.

Descriptive characteristics of self-compassion and its components Table.2

Post exam				Pre-Test				Statistical indicators / Groups	
Maximum	Minimum	Standard deviation	Average	Maximum	Minimum	Standard deviation	Average		
18	14	0.94	15.45	17	10	1.67	13.80	Test	Kindness to oneself
16	10	1.71	14.30	17	11	1.74	14.25	Control	
18	13	1.18	15.60	17	10	1.63	14.40	Test	Judgment about oneself
15	11	1.19	14.05	16	10	1.46	14.15	Control	
18	12	1.48	15.00	17	10	1.78	13.65	Test	Shared

16	11	1.47	13.80	17	10	1.78	13.35	**Control**	**human emotions**
16	12	1.12	14.00	15	10	1.71	12.70	**Test**	**Isolation**
15	11	1.48	13.25	15	10	1.71	13.10	**Control**	
18	12	1.70	15.50	16	10	1.63	13.65	**Test**	**Mindfulness**
17	12	1.35	14.50	18	11	1.84	13.95	**Control**	
19	10	2.08	14.60	16	5	2.88	11.65	**Test**	**magnification**
17	9	1.97	12.90	17	9	2.08	13.15	**Control**	
99	83	3.91	90.15	89	68	5.16	79.85	**Test**	**Self compassion**
91	76	4.43	82.80	90	70	5.10	81.95	**Control**	

Table 3. Results of multivariate analysis of covariance to examine between-group differences mean self-compassion and its components

Significance level	Statistics F	Mean squares	Degree of freedom	Sum of squares	Variable	Source of change
0.000	23052	17.996	1	17.996	Kindness to oneself	**Group**
0.000	15.184	16.299	1	16.299	Judgment about oneself	
0.031	5.067	7.904	1	7.904	Shared human emotions	
0.017	6.332	8.593	1	8.593	Isolation	
0.008	8.099	12.361	1	12.361	Mindfulness	
0.002	11.134	40.790	1	40.790	Magnification	
		0.781	32	24.982	Kindness to oneself	**Mistake**
		1.073	32	34.349	Judgment about oneself	
		1.560	32	48.918	Shared human emotions	
		1.357	32	43.421	Isolation	
		1.526	32	48.837	Mindfulness	
		3.664	32	117.232	Magnification	

* $P \leq 0/05$

Based on the results of Table 3, the multivariate analysis of covariance (MANCOVA) showed that, after controlling for the pre-test scores, there was a significant difference between the mean scores of the experimental and control groups regarding the sub-scores of self-compassions in the post-test. Therefore, it can be concluded that participating in an acceptance and commitment therapy program, while controlling for pre-test scores, is effective in improving the self-compassion of diabetic patients."

DISCUSSION AND CONCLUSION

The present study aimed to investigate the effect of acceptance and commitment therapy on self-compassion in diabetic patients. According to the obtained results, acceptance and commitment therapy is effective in enhancing self-compassion among diabetic patients, and

this therapy improved all components of self-compassion in the experimental group. The results of this part of the research align with other studies, including the research by Ghadampour et al. (2019), which indicated that acceptance and commitment-based education increases the level of self-compassion; Aghaei (2017), which found that acceptance and commitment therapy increases self-compassion in the experimental group compared to the control group; Hojat Khah (2017), which reported that acceptance and commitment therapy increases self-compassion; and Noohi (2017), which suggested that acceptance and commitment therapy influences self-compassion as well as the components of self-judgment and excessive identification, Abdi (2017) indicates the ability of acceptance and commitment therapy to modify maladaptive schemas and enhance self-compassion; Yavari (2017) suggests that acceptance and commitment therapy education increases self-compassion in the experimental group compared to the control group; Mir-Darikhond (2016) establishes that acceptance and commitment therapy education leads to an increase in self-compassion; Safarimousavi (2016) states that acceptance and commitment therapy improves self-compassion in patients; Niknejadi et al. (2015) discuss the effectiveness of acceptance and commitment therapy on increasing self-compassion; Loma and Platt (2015) assert that acceptance and commitment therapy enhances self-compassion; and Yadavaya et al. (2014) conclude that acceptance and commitment therapy significantly improves self-compassion in the experimental group compared to the control group; Naf and Trich (2013). Based on the fact that acceptance and commitment therapy is effective in enhancing self-compassion, Yadaoaya(2013) argues that ACT creates psychological flexibility, leading to a powerful process for improving self-compassion. In explaining this, it can be stated that this therapy increases sensitivity to suffering in oneself and others, being kind to oneself, practising compassionate self-talk instead of logical reasoning, and accepting the suffering caused by one's illness and establishing a connection with it without feeling shame or weakness. These practices lead individuals toward compassionate behaviour. According to the results of research, using ACT, individuals can easily experience unpleasant internal events in the present moment and separate themselves from negative reactions, memories, and thoughts. Therefore, their self-compassion increases (Noohi, 2017). In justifying the results obtained, it can be said that there are similarities between psychological flexibility and self-compassion. The central concept of self-compassion, which involves being kind to oneself, has a very close relationship with the concept of self-acceptance in the acceptance and commitment therapy (ACT) approach. Accepting pain and suffering when experiencing injuries can be a form of self-compassion. Developing an evident connection with pain and suffering is essential for expanding self-understanding, and coping skills in self-compassion theory are aimed at engaging with pain and suffering, which is the same as the concept of self-compassion. Moreover, the concept of mindfulness in the ACT approach and the concept of self-compassion have been emphasized. This concept, from an ACT perspective, encompasses processes of defusion, acceptance, present moment awareness, and self as context. the process of defusion in self-compassion allows individuals to separate their self-critical thoughts without proving or engaging with them, making it of special importance in the concept of self-compassion. The self as observer or self as context expresses a sense of self that has emerged due to defusion from oneself. Unlike self-esteem, which relies on positive self-evaluations, the self as context cannot be threatened due to its complete stability, even in the face of failures or difficulties (Yadaoya et al., 2014). Martin and colleagues have shown that there is a positive relationship between self-compassion and psychological flexibility. In this regard, Marshall et al. (2016) stated that self-compassion is positively associated with psychological flexibility and its separate processes, including acceptance of experiences, thoughts, and feelings without judgment, defusion, and valuing life. Intervention with Acceptance and Commitment Therapy (ACT) has led to increased self-compassion, reduced psychological stress, and decreased depression in the experimental group compared to the control group. Overall, psychological flexibility has improved through ACT intervention, and as a result, this improvement in psychological flexibility has led to increased self-compassion (Yadaoaya et al., 2014). In explaining this finding, it can be said that self-compassion is associated with feelings of

worthiness, happiness, and authenticity, and individuals who practice self-compassion can express their beliefs in the context of their illness. Acceptance and Commitment Therapy training creates a platform for individuals to develop constructive hopelessness about their previous coping strategies related to unpleasant thoughts and feelings through self-exercises. The goal of this therapeutic approach is not to create dependency or belief in dependency, but rather to help individuals let go of previous coping mechanisms used to control unpleasant thoughts and feelings (Abdi, 2017).

Based on the results of this research, below we will examine practical suggestions for increasing the effectiveness of this type of therapy:

. **- Learning life skills with diabetes:** Training programs based on life skills with diabetes can help patients improve in the face of everyday challenges with diabetes.

- Awareness of emotions and thoughts: Keep patients informed that unwanted emotions and thoughts can affect diabetes management. Teaching them how to identify and deal with these feelings can be helpful.

- Promote self-compassion: Encourage patients to promote self-compassion and self-confidence. They need to know that facing diabetic challenges may be difficult, but with effort, they can succeed.

- Planning daily activities: Help patients make regular plans for their daily activities, including taking care of their diet, exercising and conducting regular blood glucose tests.

- Communication with the doctor: Regular communication with the relevant doctor is important to check progress and changes in treatment and answer patients' questions and ambiguities.

- Long-term sustainability: It is critical to emphasize the importance of continuing diabetes management in the long term and encouraging patients to adhere to standard treatment procedures.

Among the limitations of this study are: lack of time and time to conduct the research in follow-up periods, lack of access to relevant and up-to-date and new resources around the subject of the study, lack of cooperation of some diabetic patients in completing and timely delivery of questionnaires due to the long duration of the questionnaires, the limited statistical population of the present study because the statistical population was a small city, lack of motivation of diabetic patients in responding to the questionnaires, perhaps due to having many problems or not wanting anyone to know the reality of the matter, and lack of appropriate cooperation from hospitals and medical centres in identifying and interacting with patients.

REFERENCES

1. Aghaei, Hakimeh. (2017) The effectiveness of commitment and acceptance therapy on social adjustment and self-compassion in male students of the second year (government) in Tehran's District 3, Master's thesis, Islamic Azad University, Shahrood Branch, Faculty of Literature and Humanities.
2. Behrouz, Bovali Fatemeh, Heydarizadeh Nasrin, Farhadi Mehran. (2016). The effectiveness of acceptance and commitment therapy on psychological symptoms, coping styles and quality of life in patients with type II diabetes. Health and Hygiene, 7(2), 236-253
3. Hojjatkhah, Mohsen. (2017) The effectiveness of acceptance and commitment therapy on conflict resolution styles and self-compassion in distressed couples in Kermanshah. Master's thesis, Razi University, Faculty of Social and Educational Sciences.
4. Soltanizadeh, Mohammad; Montazeri, Maryam and Latifi, Zohreh. (2018). The effectiveness of cognitive behavioural therapy on emotion regulation in children with type 1 diabetes. Iranian Journal of Diabetes and Metabolism, 18(2), 97-109.
5. Safari Mousavi, Seyed Sina. (2016). The effectiveness of commitment and acceptance therapy training on depression, death anxiety, self-compassion and quality of life in

female patients with MS in Khorramabad city, Master's thesis, Lorestan University, Faculty of Literature and Humanities.
6. Abdi, Hamideh. (2017). the effectiveness of acceptance and commitment therapy (ACT) on early incompatible traits and self-compassion in women with marital conflicts, University of Tabriz, Faculty of Educational Sciences and Psychology.
7. Ghadampour, Ezzatollah; Rashidi, Farzaneh; Yousefvand, Enayati, Bahar; and Maleki, Sobhan. (2019). The effectiveness of acceptance and commitment therapy in changing the level of self-compassion and emotional regulation in couples with depression, Psychological Studies, 12(2), 36-22.
8. Mirdrikvand, Fazlollah. (2016). The effectiveness of commitment and acceptance therapy training on depression, death anxiety, self-compassion and quality of life in female patients with MS in Khorramabad city, Master's thesis, Lorestan University, Faculty of Persian Language and Literature.
9. Nouhi, Shahnaz. (2017). The effectiveness of acceptance and commitment therapy on family cohesion and self-compassion in married women, Master's thesis, Islamic Azad University, Shahrood Branch.
10. Niknejadi, Farzaneh and Dehghan Sefidkouh, Azam. (2015) The effectiveness of acceptance and commitment therapy on increasing self-compassion in mothers of children with autism in Isfahan, National Conference on Applied Research in Educational Sciences and Psychology and Social Damages in Iran, Tehran, Association for the Development and Promotion of Basic Sciences and Technologies and research centre.
11. Yavari, Hossein. (2017). The Effectiveness of Commitment and Acceptance Therapy on Social Adjustment and Self-Compassion in Male Students of the Second Period (Government) in District 3 of Tehran, Master's Thesis, Islamic Azad University, Shahrood Branch - Faculty of Literature and Humanities.
12. Anvari MH. (2013) The Effectiveness of group-based acceptance and commitment therapy on pain index, stress, anxiety, depression, catastrophizing & life satisfaction in patients with chronic pain. M.A. Thesis in clinical psychology. University of Isfahan, Faculty of Educational Sciences &Psychology, Department of Psychology, 2013.
13. Arigo D, Smyth JM, Haggerty K & Raggio GA. (2014) The social context of the relationship between glycemic control and depressive symptoms in type 2 diabetes. Chronic Illness, 9(4): 129-42.
14. Hayes, S.C. (2012). Acceptance and commitment therapy. The process and practice of mindful change. New York: Guilford Publication.
15. Hoffman BM, Papas RK, Chatkoff DK, Kerns RD. (2007) Meta-analysis of psychological interventions for chronic low back pain. Health Psychol. 26(1): 1-9.
16. Luoma, J. B., & Platt, M. G. (2015). Shame, self-criticism, self-stigma, and compassion in Acceptance and Commitment Therapy. *Current Opinion in Psychology*, *2*, 97-101.
17. Luoma, J. B., & Platt, M. G. (2015). Shame, self-criticism, self-stigma, and compassion in Acceptance and Commitment Therapy. *Current Opinion in Psychology*, *2*, 97-101.
18. McCracken LM, Vowles KE, Eccleston C. (2004) Acceptance of chronic pain: component analysis and a revised assessment method. J Pain; 107 (1-2)
19. Mousavi, S. M., Kraskian Mujembari, A., Hassani Abharian, P., & Pashang, S. (2018). Effectiveness of Acceptance and Commitment-Based Therapy (ACT Rehab) on Quality of Life, Severity and Duration of Pain; in Women With Chronic Low Back Pain. *Iranian Rehabilitation Journal*, *16*(1), 103-110.
20. Neff, K. D., & Germer, C. K. (2013). A pilot study and randomized controlled trial of the mindful self-compassion program. Journal of Clinical Psychology, 69(1), 28-44.
21. Neff, K., & Tirch, D. (2013). Self-compassion and ACT. *Mindfulness, acceptance, and positive psychology: The seven foundations of well-being*, 78-106.
22. Spatola, C.A., Manzoni, G.M., Castelnuovo, G., Malfatto, G., Facchini, M ., Goodwin, C.L., Baruffi, M ., Molinari, E. (2014) . The ACT on HEART study: rationale and design of a randomized controlled clinical trial comparing a brief intervention based on

Acceptance and Commitment Therapy to usual secondary prevention care of coronary heart disease. Health Qual Life Outcomes. 12(22). 1-10.

23. Thomas N, Shawyer F, Castle DJ, Copolov D, Hayes SC & Farhall J. (2014) A randomised controlled trial of acceptance and commitment therapy (ACT) for psychosis: study protocol. BMC Psychiatry. 14:198.
24. Uman LS. Systematic review and meta-analysis. (2007) J Can Acad Child Adolesc Psychiatry. 20(1): 57-9.
25. Yadavaia, J. E., Hayes, S. C., & Vilardaga, R. (2014). Using acceptance and commitment therapy to increase self-compassion: A randomized controlled trial. *Journal of Contextual Behavioral Science*, *3*(4), 248-257.
26. Yadavaia, J. E., Hayes, S. C., & Vilardaga, R. (2014). Using acceptance and commitment therapy to increase self-compassion: A randomized controlled trial. *Journal of Contextual Behavioral Science*, *3*(4), 248-257.
27. Yarnell, L. M., & Neff, K. D. (2013). Self-compassion, interpersonal conflict resolutions, and well-being. Self and Identity, 12, 146–159.