





The effectiveness of acceptance and commitment therapy on perceived stress in diabetic elderly

Reza. Rahimi¹, Hasan. Ahadi^{2*}, Biouk. Tajeri³, Anis. Khoshlahjeh Sedgh⁴

¹ PhD Student in General Psychology, Department of Psychology, Dubai Branch, Islamic Azad University, Dubai, UAE

² Professor, Department of Psychology, Dubai Branch, Islamic Azad University, Dubai, UAE

³ Assistant Professor, Department of Psychology, Karaj Branch, Islamic Azad University, Karaj, Iran

⁴ Assistant Professor, Department of Health Psychology, Qom Medical Sciences Branch, Islamic Azad University, Qom, Iran

* Corresponding author email address: drahadi5@gmail.com

Article Info

Article type:

Original Research

How to cite this article:

Rahimi, R., Ahadi, H., Tajeri, B., & Khoshlahjeh Sedgh, A. (2023). The effectiveness of acceptance and commitment therapy on perceived stress in diabetic elderly. *Journal of Personality and Psychosomatic Research*, 1(1), 1-5.

<https://doi.org/10.61838/kman.jppr.1.1.1>



© 2023 the authors. Published by KMAN Publication Inc. (KMANPUB), Ontario, Canada. This is an open access article under the terms of the Creative Commons Attribution-NonCommercial 4.0 International (CC BY-NC 4.0) License.

ABSTRACT

The present study aimed to investigate the effectiveness of acceptance and commitment therapy on perceived stress in the elderly with diabetes. The research design of the present study was semi-experimental with a pre-test-post-test design with a control group. The statistical population of this research was all the elderly diabetics who visited the health centers of Rafsanjan and had symptoms of high stress. In this research, using the available sampling method based on random selection, people were placed in two experimental and control groups (15 people in each group). The F-value of the perceived stress in the post-test is (42.406), which is significant at the 0.001 level, and this shows that there is a significant difference between the two groups in the amount of perceived stress. The effect size of 0.61 also shows that this difference is large and significant in society. The F statistic of the perceived stress pre-test is also (5.819), which is significant at the 0.05 level. According to the findings, it can be said that the mean of the experimental group in perceived stress is significantly lower than the mean of the control group. As a result, the ACT significantly affects the amount of stress in diabetic elderly.

Keywords: Acceptance and commitment therapy, perceived stress, elderly, diabetes.

1 Introduction

Considering that the elderly community, both in the world and in Iran, constitutes a significant part of the population and is increasing every year, examining its mental health becomes more apparent. This group is highly

stressed due to their age and special social situation (Nitta et al., 2023). Among the common diseases among the elderly is the epidemic of diabetes, which is one of the most important causes of death and disability and one of the growing public health concerns in the world. The stress of the elderly has also increased since 2014 and is considered

one of the most important health issues, even though this amount was lower in previous similar generations (Peterman et al., 2020). Perceived stress increases with age and there is a relationship between the control of this perceived stress and the mental and physical well-being of the elderly (Banisi, 2019; Van Gelder et al., 2020). Health-related stress is very common in older adults and appears important in the relationship between perceived stress levels and age (Wang, Zou, & Liu, 2023). Perceived stress includes feeling uncontrollable and uncontrollable about life's unpredictability and lack of change in life and low self-confidence in one's ability to cope with problems. Most older people who do not mention their mental suffering report higher perceived stress (Rahmani, 2020; Rezaifar et al., 2019). And in recent years, a significant part of the aging literature is based on this group's support model. It is known as fighting the problematic and negative aspects of aging life (Bahrami Rad & Rafezi, 2019).

On the other hand, recent studies show that combined treatments, i.e., medicine, medication and psychotherapy, are better than medication alone (Afshinpoor, Khorami, & Nabavi, 2018; Hejazizadeh, Pazokian, & Abdi, 2020). Acceptance and commitment therapy is a third-wave behavioral therapy approach that aims to increase participation in activities that provide meaning, validity, and value to people with persistent pain or distress (Sadeghi, Naeimeh, & Alivandvafa, 2021). ACT appears to be appropriate for the elderly population because many older adults may have their value orientation due to awareness of limited time in life (Mokhtarinejad, Mirzaian, & Hassanzadeh, 2020). Therefore, this study aimed to investigate the effectiveness of acceptance and commitment therapy on perceived stress in diabetic elderly.

2 Methods and Materials

2.1 Study Design and Participants

The research design of the present study was quasi-experimental with a pre-test-post-test design with a control group. The statistical population of this research was all the elderly diabetics who visited the health centers of Rafsanjan and had symptoms of high stress. In this research, people were placed in two experimental and control groups using the available sampling method based on random selection. Then, 30 people in the experimental group (15 individuals) and control group (15 individuals) were randomly replaced and selected. Then, by providing the treatment based on the trial group, its effect on the dependent variables, the amount

of stress in the diabetic elderly, was observed and investigated. Before the start of the training, a pre-test was conducted for the experimental group as well as the control group. After the treatment steps, the post-test was performed on the experimental groups to obtain the difference from the independent variable in the experimental group. Also, in order to compare them with the control group, a post-test was also conducted from the control group.

2.2 Measures and Interventions

2.2.1 Perceived Stress

Perceived Stress Scale Version 4 was made by Cohen, Tyrrell and Smith (1993) consisting of four items and 2 factors, positive (2 items) and negative (2 items) in order to measure the degree of situations in a person's life. It is used as a stressor. The positive factor includes questions 2 and 3 and the negative factor includes questions 1 and 4. The scoring of the questionnaire is in the form of a 5-point Likert scale. Several studies have been conducted regarding the psychometric properties of perceived stress. Factor analysis studies show that the 14th, 10th and 4th versions of the perceived stress scale have a two-factor structure that includes positive and negative factors. However, some studies have reported the factor structure of perceived stress version 4 as a single factor. The reliability of this scale has been investigated using Cronbach's alpha coefficient and retesting in different studies. The creators reported Cronbach's alpha coefficient of 14, 10, and 4 versions as 0.75, 0.87, and 0.60 on samples of 2387 people in America (Cohen, Tyrrell, & Smith, 1993). In the present study, Cronbach's alpha coefficient was 0.78 for positive perceived stress and 0.72 for negative stress.

2.2.2 Acceptance and Commitment Therapy

The members of the ACT experimental group received ACT during eight sessions of 90 minutes, according to the treatment program of Hayes et al. (2006) (Hayes et al., 2006).

2.3 Data Analysis

In order to statistically analyze the data, analysis of covariance test and SPSS software were used.

3 Findings

In the [Table 1](#), the descriptive indices of the research variables in the pre-test and post-test are reported separately for the groups.

Table 1

Descriptive findings (Mean and Standard Deviation)

Variable	Stage	Pre-test		Post-test	
	Group	M	SD	M	SD
Stress	ACT	36.07	7.78	17.27	5.89
	Control	35.93	8.72	34.80	9.67

Table 2

ANOVA results

Source	SS	Df	MS	F	p	Effect size
Pre-test	318.325	1	318.325	5.819	0.023	0.177
Group	2319.795	1	2319.795	42.406	0.001	0.611
Error	1477.008	27	54.704			

According to the above table, the F statistic of the perceived stress in the post-test is (42.406), which is significant at the 0.001 level, and this shows that there is a significant difference between the two groups in the amount of perceived stress. The effect size of 0.61 also shows that this difference is large and significant in society. The F statistic of the perceived stress pre-test is also (5.819), which is significant at the 0.05 level.

4 Discussion and Conclusion

The present study aimed to investigate the effectiveness of ACT on perceived stress in diabetic elderly. According to the findings, it can be said that the average of the experimental group in perceived stress is significantly lower than the average of the control group. As a result, the ACT approach significantly affects the level of stress in diabetic elderly. This result was consistent with the findings of some previous studies (Afshari, Khayatan, & Yousefi, 2022; Babakhani, 2020; Ferreira et al., 2022; Fishbein et al., 2022; Mardani et al., 2023; Sadeghi, Naeimeh, & Alivandvafa, 2021; Shepherd, Golijani-Moghaddam, & Dawson, 2022).

ACT is a behavioral therapy that focuses on values in life. This therapy consists of six central processes: acceptance and willingness, cognitive detachment, self as context, connection with the present moment, values, and committed action (Larsson, Hartley, & McHugh, 2022). Hence, it leads clients to openness and real experiences in thoughts and feelings. ACT advocates openness to inner experiences

because trying to avoid painful emotions creates pain and suffering, as all those efforts take us away from the things that are important to us and give meaning and validity to life. ACT focuses on identifying thoughts and feelings that act as barriers (such as stress) to living a meaningful life. It aims to change our relationship with those internal experiences instead of changing the experiences themselves. The reason for the effectiveness of this treatment is that the clients like it (Mirzaeidoostan, Zargar, & Zandi Payam, 2019). The goal of the ACT therapist is not to reduce the symptoms of stress, but this is what we will achieve as a by-product of the treatment process. ACT changes the relationship between problematic thoughts and feelings so that people perceive them as pathological symptoms and even learn to perceive them as harmless (even if they are uncomfortable and unpleasant). This approach is always a form of empowerment that makes a life of values, richness and meaning available to everyone.

because trying to avoid painful emotions creates pain and suffering, as all those efforts take us away from the things that are important to us and give meaning and validity to life. ACT focuses on identifying thoughts and feelings that act as barriers (such as stress) to living a meaningful life. It aims to change our relationship with those internal experiences instead of changing the experiences themselves. The reason for the effectiveness of this treatment is that the clients like it (Mirzaeidoostan, Zargar, & Zandi Payam, 2019). The goal of the ACT therapist is not to reduce the symptoms of stress, but this is what we will achieve as a by-product of the treatment process. ACT changes the relationship between problematic thoughts and feelings so that people perceive them as pathological symptoms and even learn to perceive them as harmless (even if they are uncomfortable and unpleasant). This approach is always a form of empowerment that makes a life of values, richness and meaning available to everyone.

5 Limitations and Suggestions

Among the limitations of this research is the small sample size and conducting the intervention only on the elderly, which reduces the generalizability of the results. Other limitations of this research include the lack of a follow-up phase and the impossibility of keeping the type of medications used by the elderly. Certainly, the main limitation of any research project is the need to generalize the findings to other statistical populations. The present

research is not an exception to this rule and its results cannot be generalized except to the place and statistical community of this research. Also, carelessness in answering, dishonesty and possible errors are obvious in questionnaire research, but an attempt has been made to reduce these error factors by removing dubious protocols. Finally, it is suggested to use individual and group ACT in the associations related to the elderly and in psychological clinics of hospitals and public and private clinics to increase the quality of life of diabetic elderly.

Acknowledgments

The cooperation of all participants in the research is thanked and appreciated.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethics principles

In this research, ethical standards including obtaining informed consent, ensuring privacy and confidentiality were observed.

References

- Afshari, M., Khayatan, F., & Yousefi, Z. (2022). A Comparison of the Effectiveness of the Reality-Based Acceptance and Commitment Therapy (RACT) Package and Cognitive-Behavioral Therapy (CBT) in Improving Procrastination and Responsibility in Adolescent Girls. *Journal of Applied Family Therapy*, 3(2), 1-19. <https://doi.org/10.22034/AFTJ.2022.313663.1246>
- Afshinpoor, F., Khorami, N. S., & Nabavi, S. A. (2018). The effectiveness of acceptance and commitment therapy on anxiety and quality of life in patients with non-cardiac chest pain. *Journal of Cognitive Psychology and Psychiatry*, 8(5), 56-68. <https://doi.org/10.32598/shenakht.8.5.56>
- Babakhani, V. (2020). The effectiveness of Acceptance and Commitment Therapy (ACT) on enduring the distress and self-control of betrayed women. *Journal of Family Psychology*, 7(1), 121-132. <https://doi.org/10.52547/ijfp.7.1.121>
- Bahrami Rad, M., & Rafezi, Z. (2019). Predicting pain acceptance based on perceived stress and coping strategies in individuals with rheumatoid arthritis. *QUARTERLY JOURNAL OF HEALTH PSYCHOLOGY*, 7(28), 151-166. <https://doi.org/10.30473/hpj.2019.38617.3887>
- Banisi, P. (2019). The Effectiveness of Positivism Training on Subjective Well-being, Positive Meta-emotion and Self-management Ability in the Elderly Women. *Aging Psychology*, 5(3), 217-227. <https://doi.org/10.22126/jap.2019.4604.1366>
- Cohen, S., Tyrrell, D. A., & Smith, A. P. (1993). Negative life events, perceived stress, negative affect, and susceptibility to the common cold. *Journal of personality and social psychology*, 64(1), 131. <https://doi.org/10.1037/0022-3514.64.1.131>
- Ferreira, M. G., Mariano, L. I., de Rezende, J. V., Caramelli, P., & Kishita, N. (2022). Effects of group Acceptance and Commitment Therapy (ACT) on anxiety and depressive symptoms in adults: A meta-analysis. *Journal of affective disorders*, 309, 297-308. <https://doi.org/10.1016/j.jad.2022.04.134>
- Fishbein, J. N., Judd, C. M., Genung, S., Stanton, A. L., & Arch, J. J. (2022). Intervention and mediation effects of target processes in a randomized controlled trial of Acceptance and Commitment Therapy for anxious cancer survivors in community oncology clinics. *Behaviour Research and Therapy*, 153, 104103. <https://doi.org/10.1016/j.brat.2022.104103>
- Hayes, S. C., Luoma, J. B., Bond, F. W., Masuda, A., & Lillis, J. (2006). Acceptance and commitment therapy: Model, processes and outcomes. *Behaviour Research and Therapy*, 44(1), 1-25. <https://doi.org/10.1016/j.brat.2005.06.006>
- Hejazizadeh, N., Pazokian, M., & Abdi, M. (2020). Fatigue in Patients with Multiple Sclerosis in Tehran in 1398. *Iran Journal of Nursing*, 33(126), 1-15. <https://doi.org/10.52547/ijn.33.126.1>
- Larsson, A., Hartley, S., & McHugh, L. (2022). A randomised controlled trial of brief web-based acceptance and commitment Therapy on the general mental health, depression, anxiety and stress of college Students. *Journal of Contextual Behavioral Science*, 24, 10-17. <https://doi.org/10.1016/j.jcbs.2022.02.005>
- Mardani, F., Yousefi, S. A., Ghorbani, E., & Mirzaei, Z. (2023). The effectiveness of realistic acceptance and commitment therapy (RACT) on marital burnout and alexithymia in couples. *Journal of Assessment and Research in Applied Counseling*, 5(1), 9-18. <https://doi.org/10.52547/jarac.5.1.10>
- Mirzaeidoostan, Z., Zargar, Y., & Zandi Payam, A. (2019). The Effectiveness of Acceptance and Commitment Therapy on Death Anxiety and Mental Health in Women With HIV in Abadan City, Iran [Original Research]. *Iranian Journal of Psychiatry and Clinical Psychology*, 25(1), 2-13. <https://doi.org/10.32598/ijpcp.25.1.2>
- Mokhtarinejad, O., Mirzaian, B., & Hassanzadeh, R. (2020). Comparison of the effectiveness of schema therapy and acceptance and commitment therapy on perception of disease and worry in patients with illness anxiety disorder [Research]. *Advances in Cognitive Sciences*, 22(3), 58-67. <https://doi.org/10.30699/icss.22.3.58>
- Nitta, K., Hanafusa, N., Kawaguchi, Y., & Tsuchiya, K. (2023). Physical function management for elderly dialysis patients: prevention and improvement of frailty and disability. *Renal Replacement Therapy*, 9(1), 1-7. <https://doi.org/10.1186/s41100-023-00459-2>
- Peterman, A., Potts, A., O'Donnell, M., Thompson, K., Shah, N., Oertelt-Prigione, S., & Van Gelder, N. (2020). *Pandemics and violence against women and children* (Vol. 528). Center for Global Development Washington, DC. <https://cgdev.org/sites/default/files/pandemics-and-vawg-april2.pdf>
- Rahmani, S. (2020). The effect of group mindfulness- based stress reduction program and conscious yoga on the quality of life and fatigue in patients with multiple Sclerosis. *Clinical Psychology and Personality*, 16(2), 141-150. <https://doi.org/10.22070/cpap.2020.2865>
- Rezaifar, E., Sepah Mansour, M., Kochackentzar, R., & Kooshki, S. (2019). Developing a model of marital relationship stability based on personality traits and perceived stress with the

- mediation of problem-solving styles. *Social Cognition*, 8(1), 83-106. <https://www.sid.ir/paper/237108/en>
- Sadeghi, M., Naeimeh, M., & Alivandvafa, M. (2021). Effectiveness of Acceptance and Commitment Therapy (ACT) in Couple Burnout, Alexithymia, and Quality of Life of Women Affected by Marital Infidelity. *Journal of Applied Family Therapy*, 2(3), 73-91. <https://doi.org/10.22034/AFTJ.2021.296762.1146>
- Shepherd, K., Golijani-Moghaddam, N., & Dawson, D. L. (2022). ACTing towards better living during COVID-19: The effects of Acceptance and Commitment therapy for individuals affected by COVID-19. *Journal of Contextual Behavioral Science*, 23, 98-108. <https://doi.org/10.1016/j.jcbs.2021.12.003>
- Van Gelder, N., Peterman, A., Potts, A., O'Donnell, M., Thompson, K., Shah, N., & Oertelt-Prigione, S. (2020). COVID-19: Reducing the risk of infection might increase the risk of intimate partner violence. *EClinicalMedicine*, 21. <https://doi.org/10.1016/j.eclinm.2020.100348>
- Wang, L., Zou, H., & Liu, J. (2023). Mediating effects of ageism and knowledge on the relationship between contact with older adults and attitudes toward older adults' sexuality among nursing students. *Nurse Education Today*, 122, 105740. <https://doi.org/10.1016/j.nedt.2023.105740>