Research Article

The Effectiveness of Acceptance and Commitment Therapy in the Experience of Pain Intensity and Life Quality of Women with Fibromyalgia Syndrome

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Abstract:

Background: The present study aims to evaluate the effectiveness of acceptance and commitment therapy on experience of pain intensity and life quality in women with fibromyalgia syndrome.

Methods: In order to conduct the mentioned research, the city of Isfahan was chosen as a case study. From among the patients with fibromyalgia referring to clinics in Isfahan, 30 people who were willing to participate in the project were purposefully selected based on inclusion and exclusion criteria and randomly assigned to two experimental (15 people) and control (15 people) groups and the Von Korff Chronic Pain Questionnaire (VCPQ) and Life Quality Short Form Survey (SF-36) were administered for pre-test. The experimental group underwent 10 sessions (90 minutes per week) of acceptance-based therapy and one week after the intervention, both experimental and control groups were retested. The research method was quantitative and the questionnaire was used as the measurement tool.

Results: Based on the results, a significant difference was observed between the experimental and control groups in the post-test stage in quality of life scores. There was also a significant difference between the experimental and control groups in the post-test stage in pain avoidance scores.

Conclusion: The results of analysis of covariance (ANCOVA) indicated that acceptance and commitment therapy (ACT) can affect the experience of pain intensity and life quality in women with fibromyalgia syndrome.

Keywords: Fibromyalgia, Pain, Acceptance and Commitment Therapy, Life Quality.

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Background:

Fibromyalgia is a complicated and multifaceted disease that has an unpredictable course; and it has a high comorbidity with other physical-functional syndromes and psychological conditions. Research has indicated that patients with fibromyalgia are more likely to experience emotional disturbances, including anxiety and depression, compared to the controls. [1] Evidence suggests that various forms of psychological pathology, such as depression and anxiety, are described based on psychological flexibility by exaggerating behavioral and emotionally maladaptive rules or by value-based behaviors and sensitivity to future-related probabilities [2]. Psychological flexibility can adapt a person's thinking and behavior in response to changes in environmental conditions [3]. Those who lack psychological flexibility, in difficult times, cannot find appropriate coping methods to get rid of such feelings [4]. As a result, a decrease in psychological flexibility in fibromyalgia patients can be expected due to the prevalence of psychological problems, depression and anxiety [5]. Most fibromyalgia patients experience vague and nonspecific muscle pain, which is often bilateral and worse in the neck and trunk [6].

Painful feeling of a non-painful stimulus and hyperalgesia (feeling a painful stimulus too much) is a common response in these patients. In general, these patients have a lower pain tolerance range than healthy people and experience more severe pain. [7]. Many patients with chronic pain continue to experience pain despite medication interventions, and their life quality is dramatically affected if they are unable to cope with the pain. Life quality is a variable mental structure and includes physical, psychological and social characteristics that describe a person's ability to function in the context of family, school and peers [8]. Health-related quality of life is a subset of the general concept of life quality affected by illness or treatment and is an important indicator in evaluating treatments and care. The World Health Organization defines life quality as an individual's perception of their position in a context of cultural and value systems according to their goals, expectations, standards, and interests [9]. The concept of life quality began after the World War II with research on people with certain diseases [10]. In recent years, a branch of life quality called health-related life quality has attracted the attention of researchers and therapists. Given the prevalence of fibromyalgia, especially in women, and considering the effect of the spread pain of this syndrome on the life quality of these patients, and confirming the effectiveness of ACT on the severity of pain experience [11] and life quality [12] and eventually, taken into account the scarcity of studies on fibromyalgia syndrome and lack of investigation on the effectiveness of ACT for psychological problems in this group, the current study attempted to evaluate the effectiveness of ACT in the experience of pain intensity and life quality in women with fibromyalgia syndrome and answer the following question: Can this treatment reduce the experience of pain intensity and improve the life quality of these patients?

Methods

The method of this research was quasi-experimental with a pre-test and post-test design and with control group. The statistical population of this study included 243 women with fibromyalgia referring to clinics in Isfahan in 2020. According to the research topic, the independent variable is the acceptance and commitment therapy and the dependent variables included the experience of pain intensity and life quality. Thirty people were selected as the study sample consisting of patients referring to Aspian Darou Center and physiotherapy centers in Isfahan who were willing to participate in the project. In this research, the data collection tool is a questionnaire. The Von Korff Chronic Pain Questionnaire (VCPQ) was used to assess pain intensity, the 36-item Life Quality Short Form Survey (SF-36) and the Fibromyalgia Impact Questionnaire (FIQ) were used to measure the life quality and also to screen the experimental groups.

Von Korff Chronic Pain Questionnaire (VCPQ): This questionnaire was developed to measure the intensity of chronic pain (see Appendix 2). The respondent rates each of the seven items on an eleven-point scale ranging from 0 to 10. The individual's test score is calculated in three subscales: pain intensity, disability score, and degrees or levels of disability. This questionnaire has been an originally English language tool translated into Persian which has not been administered in Iran so far and requires validation (validity and reliability assessment); hhowever, the author reported the validity of this questionnaire as favorable and stated its reliability according to Cronbach's alpha above 0.9 (Von Korff, Ormel, keefe & Dworkin, 1992). Cronbach's alpha obtained in the present study for the whole questionnaire was 0.89.

The 36-item Life Quality Short Form Survey (SF-36): The purpose of this questionnaire is to assess the life quality from different aspects (physical function, role dysfunction due to physical health, role dysfunction due to emotional health,

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energy/fatigue, emotional well-being, social function, pain, general health) and has 36 questions. There are 8 subscales and each subscale consists of 2 to 10 items. The alpha coefficient obtained in this study was 0.870 for the whole questionnaire, 0.72 for physical function, 0.69 for role dysfunction due to physical health, 0.71 for role dysfunction due to emotional health, and 0.68 for energy/fatigue. The alpha coefficient was 0.73 for emotional well-being, 0.76 for social functioning, 0.73 for pain and 0.68 for general health.

Fibromyalgia Impact Questionnaire (FIQ): This questionnaire was developed to assess the current health status of women with fibromyalgia syndrome and is a self-report questionnaire assessing patient's physical functioning and work status (number of difficult days or difficult working days), depression, anxiety, morning tiredness, pain, stiffness, fatigue and well-being over past weeks and includes 20 items with 11 items for physical function. The alpha coefficient obtained in this study for the whole questionnaire was 0.81.

Data Analysis

The SPSS 22 software was used for data analysis. The mean and standard deviation of the scores were utilized at the descriptive level and the ANCOVA method was used at the inferential level.

Results:

Descriptive findings were used to evaluate the mean and standard deviation of research variables. The mean and standard deviation of the study variables for the two experimental and control groups are given in Table (1).

Table 1- Descriptive findings of the study variables by experimental and control groups

Variables	Stage	Experimental		Control	
		Mean	SD	Mean	SD
Pain avoidance	Pre-test	48.60	2.84	48.73	2.49
	Post-test	21.26	3.88	48.93	1.66
Fusion with pain thoughts	Pre-test	29.73	2.01	29.53	1.80
	Post-test	12.13	2.29	29.00	1.41
Pain intensity	Pre-test	32.13	3.09	32.60	3.25
	Post-test	14.26	2.98	31.80	3.00
Physical function	Pre-test	36.50	13.78	35.66	11.05
	Post-test	67.16	16.66	34.33	11.04
Role dysfunction due to physical health	Pre-test	68.33	33.36	67.00	25.35
	Post-test	45.00	15.81	67.44	21.54
Role dysfunction due to emotional health	Pre-test	77.77	27.21	77.33	31.37
	Post-test	44.11	19.78	76.44	20.57
Energy/fatigue	Pre-test	11.16	5.33	12.16	4.80
	Post-test	66.33	12.51	12.17	4.70
Emotional well-being	Pre-test	16.85	9.12	15.52	7.97
	Post-test	50.93	11.98	15.03	7.88
Social functioning	Pre-test	14.00	11.98	16.83	10.87
	Post-test	41.50	9.39	16.76	9.64
Pain	Pre-test	70.66	29.14	69.33	26.04
	post-test	40.50	8.38	73.33	24.68
General health	Pre-test	15.18	6.68	16.45	7.20
	post-test	35.33	7.48	16.26	3.60
Life quality	Pre-test	67.10	21.43	67.59	19.55
	post-test	81.03	15.84	70.13	6.69

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According to the table above, no significant difference is seen between the experimental and control groups in the pre-test stage; however, in the post-test stage compared to the pre-test stage, scores of physical function, energy, psychological well-being, social functioning, general health and life quality have increased and the scores of pain avoidance, fusion with pain thoughts, experience of pain intensity, role dysfunction due to physical health, role dysfunction due to emotional health and pain have decreased.
In this part of the research, each of the research hypotheses is examined. In order to conduct the ANCOVA test, we must initially examine the relevant assumptions, which are presented below.
The First Assumption: Kolmogorov-Smirnov test was used to evaluate the normality of pre-test distributions. The results of the Kolmogorov-Smirnov test are given in Table (2).

Table 2- Kolmogorov-Smirnov test to evaluate the normality of the pre-test of the study scales

Variables	Type of test	Value	P
Pain avoidance	Pre-test	0.192	0.632
Fusion with pain thoughts	Post-test	0.250	0.115
Pain intensity	Pre-test	0.137	0156
Physical function	Post-test	0.120	0.200
Role dysfunction due to physical health	Pre-test	0.308	0.749
Role dysfunction due to emotional health	Post-test	0.434	0.461
Energy/fatigue	Pre-test	0.308	0.749
Emotional well-being	Post-test	0.434	0.461
Social functioning	Pre-test	0.264	0.765
Pain	Post-test	0.161	0.455
General health	Pre-test	0.202	0.313
Life quality	Post-test	0.199	0.89

Table (2) showed that the *P* values in the Kolmogorov and Smirnov tests were greater than 0.05. According to the results, the condition for data distribution in accordance with the normal distribution and the first assumption of the ANCOVA test are observed.

Main Hypothesis 1: Acceptance and commitment therapy is effective in the intensity of pain in women with fibromyalgia syndrome.
The ANCOVA test was used to evaluate the effect of acceptance and commitment therapy on the pain intensity in women with fibromyalgia syndrome, the results of which are presented in the table.
As the ANCOVA results show, by modifying the pre-test scores, there is a significant difference between the experimental and control groups in the post-test stage, in pain intensity scores, at the significance level of 0.05.
That is, acceptance and commitment therapy has been able to improve the pain intensity in women with fibromyalgia syndrome. In other words, according to the Eta square, 93.8% of the difference in pain scores between the experimental and control groups in the post-test phase was due to the use of acceptance and commitment therapy. The effect power obtained indicates the adequacy of the sample size.
Main Hypothesis 2: Acceptance and commitment therapy is effective in life quality of women with fibromyalgia syndrome.
The ANCOVA test was used to evaluate the effect of acceptance and commitment therapy on life quality of women with fibromyalgia syndrome, the results of which are presented in Table (4).
According to the ANCOVA results, by modifying the pre-test scores, a significant difference is seen between the experimental and control groups in the post-test stage in life quality scores at the significance level of 0.05. That is, acceptance and commitment therapy has been able to improve the life quality of women with fibromyalgia syndrome. In other words, according to Eta squares, 84.1% of the difference in quality of life scores between the experimental and control groups in the post-test phase was due to the application of acceptance and

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Table 3- ANCOVA results of pain intensity scores in women with fibromyalgia syndrome

Scale	Source	Sum of squares	Degree of freedom	Mean squares	F	P	Eta	Statistical power
Pain intensity	Pre-test	33.204	1	33.204	6.052	0.021	0.183	0.660
	Group	2249.612	1	2249.612	410.044	0.000	0.0938	1.00
	Error	148.129	27	5.486				

Table 4: ANCOVA results of life quality scores in women with fibromyalgia syndrome

Scale	Source	Sum of squares	Degree of freedom	Mean squares	F	Sig. level	Eta	Statistical power
Life quality	Pre-test	2778.461	1	2778.491	0.182	0.673	0.007	0.070
	Group	21755.588	1	21755.588	142.834	0.00	0.841	1.00
	Error	41125.098	27	1523.559				

Table 5: ANCOVA results of pain avoidance scores in women with fibromyalgia syndrome

Scale	Source	Sum of squares	Degree of freedom	Mean squares	F	Sig. level	Eta	Statistical power
Pain avoidance	Pre-test	13.703	1	13.703	1.562	0.222	0.055	0.226
	Group	5506.121	1	5506.121	627.729	0.000	0.959	1.00
	Error	236.830	27	8.771				

commitment therapy. The effect power obtained suggests the adequacy of the sample size.

Secondary Hypothesis 1: Acceptance and commitment therapy is effective in pain avoidance in women with fibromyalgia syndrome.

The ANCOVA test was used to evaluate the effect of acceptance and commitment therapy on pain avoidance in women with fibromyalgia syndrome, the results of which are presented in Table (5).

As the results of ANCOVA indicate, by modifying the pre-test scores, a significant difference is observed between the experimental and control groups in the post-test stage in pain avoidance scores at the significance level of 0.05. That is, acceptance and commitment therapy has been able to improve the avoidance of pain in women with fibromyalgia syndrome. In other words, according to the Eta square, 95.9% of the difference in pain avoidance scores between the experimental and control groups in the post-test phase was due to the use of acceptance and commitment therapy. The effect power obtained here indicates the adequacy of the sample size.

*Secondary Hypothesis 2***:** Acceptance and commitment therapy is effective in fusion with pain thoughts of women with fibromyalgia syndrome.

Table 6: ANCOVA results of fusion with pain thoughts scores in women with fibromyalgia syndrome

Scale	Source	Sum of squares	Degree of freedom	Mean squares	F	Sig. level	Eta	Statistical power
fusion with pain thoughts	Pre-test	0.298	1	0.298	0.079	0.780	0.003	0.059
	Group	1977.066	1	1977.066	526.256	0.00	0.951	1.00
	Error	101.435	27	3.757				

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Table 7: ANCOVA results of physical function scores in women with fibromyalgia syndrome

Scale	Source	Sum of squares	Degree of freedom	Mean squares	F	Sig. level	Eta	Statistical power
Physical function	Pre-test	477.167	1	477.167	2.369	0.135	0.081	0.317
	Group	8736.071	1	8736.071	43.363	0.00	0.616	1.000
	Error	5439.500	27	201.463				

The ANCOVA test was used to evaluate the effect of acceptance and commitment therapy on fusion with pain thoughts in women with fibromyalgia syndrome; the obtained results are shown in Table 6.

As the results of ANCOVA test show, by modifying the pre-test scores, a significant difference exists between the experimental and control groups in the post-test stage, in the scores of fusion with pain thoughts, at the significance level of 0.05. That is, acceptance and commitment therapy has been able to improve fusion with pain thoughts in women with fibromyalgia syndrome. In other words, according to Eta square, 95.1% of the difference in fusion scores with pain thoughts of the experimental and control groups in the post-test phase was due to the application of acceptance and commitment therapy. The effect power obtained here indicates the adequacy of the sample size.

Secondary Hypothesis 3: Acceptance and commitment therapy is effective in the physical function of women with fibromyalgia syndrome.

The ANCOVA test was used to evaluate the effect of acceptance and commitment therapy on physical function in women with fibromyalgia syndrome, the results if which are presented in Table 7.

As the results of ANCOVA test suggest, by modifying the pre-test scores, there is a significant difference between the experimental and control groups in the post-test stage, in physical function scores, at the significance level of 0.05. That is, acceptance and commitment therapy could improve the physical function of women with fibromyalgia syndrome. In other words, according to the Eta square, 61.6% of the difference in the physical function scores of the experimental and control groups in the post-test phase was due to the use of acceptance and commitment treatment. The obtained effect power indicates the adequacy of the sample size.

Secondary Hypothesis 4: Acceptance and commitment therapy is effective in role dysfunction due to the physical health of women with fibromyalgia syndrome.

The ANCOVA test was used to evaluate the effect of acceptance and commitment therapy on role dysfunction due to physical health of women with fibromyalgia syndrome, the results of which are presented in Table (8).

Table 8: ANCOVA results of the scores for role dysfunction due to physical health of women with fibromyalgia syndrome

Scale	Source	Sum of squares	Degree of freedom	Mean squares	F	Sig. level	Eta	Statistical power
Role dysfunction due to physical health	Pre-test	15.890	1	15.890	0.043	0.837	0.002	0.055
	Group	14390.381	1	14390.381	38.916	0.00	0.590	1.00
	Error	9984.110	27	369.782				

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Table 9: ANCOVA results of the scores for role dysfunction due to emotional health of women with fibromyalgia syndrome

Scale	Source	Sum of squares	Degree of freedom	Mean squares	F	Sig. level	Eta	Statistical power
Role dysfunction due to emotional health	Pre-test	363.554	1	363.554	0.889	0.354	0.032	0.149
	Group	16615.360	1	16615.360	40.621	0.00	0.601	1.00
	Error	11043.854	27	409.032				

According to the table above and the results of ANCOVA test, by adjusting the pre-test scores, a significant difference is observed between the experimental and control groups in the post-test stage in the scores of role dysfunction due to physical health, at the significance level of 0.05. In other words, acceptance and commitment therapy has been able to improve the role dysfunction due to the physical health of women with fibromyalgia syndrome. That is, according to the Eta square, 59% of the difference in the role dysfunction scores due to the physical health of the experimental and control groups in the post-test phase was because of the application of acceptance and commitment therapy. The obtained effect power indicates the adequacy of the sample size.

Secondary Hypothesis 5: Acceptance and commitment therapy is effective in role dysfunction due to emotional health of women with fibromyalgia syndrome.

The ANCOVA test was used to evaluate the effect of acceptance and commitment therapy on role dysfunction due to emotional health of women with fibromyalgia syndrome, the results of which are presented in Table (9).

As the table above and the results of ANCOVA indicate, by modifying the pre-test scores, there is a significant difference between the experimental and control groups in the post-test stage, in the scores of role dysfunction due to emotional health, at the significance level of 0.05. In other words, acceptance and commitment therapy has been able to improve the role dysfunction due to the emotional health of women with fibromyalgia syndrome. That is, according to the Eta square, 60.1% of the difference in the role dysfunction scores due to the emotional health of the experimental and control groups in the post-test phase was due to the use of acceptance and commitment therapy. The obtained effect power suggests the adequacy of the sample size.

Secondary Hypothesis 6: Acceptance and commitment therapy is effective on energy/fatigue in women with fibromyalgia syndrome.

The ANCOVA test was used to evaluate the effect of acceptance and commitment therapy on energy/fatigue in women with fibromyalgia syndrome, the results of which are shown in Table (10).

Table 10- ANCOVA results of the energy/fatigue scores of women with fibromyalgia syndrome

Scale	Source	Sum of squares	Degree of freedom	Mean squares	F	Sig. level	Eta	Statistical power
energy/fatigue	Pre-test	84.882	1	84.882	0.942	0.340	0.034	0.155
	Group	20466.751	1	20466.751	277.241	0.00	0.894	1.00
	Error	2431.785	27	90.066				

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Table 11- ANCOVA results of the emotional well-being scores of women with fibromyalgia syndrome

Scale	Source	Sum of squares	Degree of freedom	Mean squares	F	Sig. level	Eta	Statistical power
emotional well-being	Pre-test	0.321	1	0.321	0.004	0.949	0.00	0.050
	Group	9350.867	1	9350.867	122.782	0.000	0.820	1.00
	Error	2056.276	27	76.158				

According to the table and the results of ANCOVA, by modulating the pre-test scores, a significant difference is seen between the experimental and control groups in the post-test stage in energy/fatigue scores at the significance level of 0.05. In other words, acceptance and commitment therapy could improve the energy/fatigue of women with fibromyalgia syndrome. Therefore, according to the Eta square, 89.4% of the difference in energy/fatigue scores between the experimental and control groups in the post-test phase was due to the application of acceptance and commitment therapy. The effect power obtained here suggests the adequacy of the sample size

Secondary Hypothesis 7: Acceptance and commitment therapy is effective in the emotional well-being of women with fibromyalgia syndrome.

The ANCOVA test was used to evaluate the effect of acceptance and commitment therapy on emotional well-being of women with fibromyalgia syndrome, the results of which are presented in Table (11).

As the results of ANCOVA show, by modifying the pre-test scores, a significant difference is observed between the experimental and control groups in the post-test stage, in emotional well-being scores, at the significance level of 0.05. That is, acceptance and commitment therapy has been able to improve the emotional well-being of women with fibromyalgia syndrome. In other words, according to the Eta square, 82% of the difference in emotional well-being scores between the experimental and control groups in the post-test phase was due to the application of acceptance and commitment therapy. The obtained effect power indicates the adequacy of the sample size.

Secondary Hypothesis 8: Acceptance and commitment therapy is effective in the social functioning of women with fibromyalgia syndrome.

The ANCOVA was used to evaluate the effect of acceptance and commitment therapy on social functioning of women with fibromyalgia syndrome, the results of which are provided in the table below.

According to the table above and the results of ANCOVA, by modifying the pre-test scores, a significant difference is observed between the experimental and control groups in the post-test stage, in social functioning scores, at the significance level of 0.05. That is, acceptance and commitment therapy has been able to improve the social functioning of women with fibromyalgia syndrome.

Table 12- ANCOVA results of the social functioning scores of women with fibromyalgia syndrome

Scale	Source	Sum of squares	Degree of freedom	Mean squares	F	Sig. level	Eta	Statistical power
Social Functioning	Pre-test	0.065	1	0.065	0.001	0.981	0.00	0.050
	Group	4485.259	1	4485.259	41.893	0.000	0.608	1.00
	Error	2890.768	27	107.065				

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In other words, according to the Eta square, 60.8% of the difference in the social functioning scores of the experimental and control groups in the post-test phase was due to the use of acceptance and commitment therapy. The effect power obtained for this subscale suggests the adequacy of the sample size.

Secondary Hypothesis 9: Acceptance and commitment therapy is effective in the pain of women with fibromyalgia syndrome.

The ANCOVA test was used to evaluate the effect of acceptance and commitment therapy on pain in women with fibromyalgia syndrome, the results of which are presented in Table (13).

As the results of ANCOVA show, by modifying the pre-test scores, a significant difference is seen in pain scores at the significance level of 0.05 between the experimental and control groups in the post-test stage, that is, acceptance and commitment therapy could improve the pain in women with fibromyalgia syndrome. In other words, according to Eta square, 58.4% of the difference in pain scores between the experimental and control groups in the post-test stage was due to acceptance and commitment treatment. The obtained effect power indicates the adequacy of the sample size.

Secondary Hypothesis 10: Acceptance and commitment therapy is effective in the general health of women with fibromyalgia syndrome.

The ANCOVA was used to evaluate the effect of acceptance and commitment therapy on the general health of women with fibromyalgia syndrome, the results of which are presented in the table below.

With reference to the table above and the results of ANCOVA, after modifying the pre-test scores, a significant difference is observed between the experimental and control groups in the post-test stage in general health scores at the significance level of 0.05. That is, acceptance and commitment therapy has been able to improve the general health of women with fibromyalgia syndrome. In other words, according to Eta squares, 84.7% of the difference in the general health scores of the experimental and control groups in the post-test phase was due to the use of acceptance and commitment therapy. The effect power obtained for this subscale shows the adequacy of the sample size.

Discussion

In general, findings of the present study considered as an effective step to improve the mental health of women with fibromyalgia. indicated the application of ACT for psychological flexibility, pain intensity and life quality of women with fibromyalgia.

According to the main hypothesis, acceptance and commitment therapy is effective in the experience of pain intensity in women with fibromyalgia syndrome. Given the results obtained in this research, it is found that the acceptance and commitment therapy is effective in the experience of pain intensity in women with fibromyalgia syndrome.

Table 13- ANCOVA results of the pain scores of women with fibromyalgia syndrome

Scale	Source	Sum of squares	Degree of freedom	Mean squares	F	Sig. level	Eta	Statistical power
Pain	Pre-test	728.313	1	728.313	1.813	0.189	0.189	0.225
	Group	15236.97	1	15236.97	37.934	0.00	0.584	1.00
	Error	1085.021	27	401.667				

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Table 14- ANCOVA results of the general health scores of women with fibromyalgia syndrome

Scale	Source	Sum of squares	Degree of freedom	Mean squares	F	Sig. level	Eta	Statistical power
General Health	Pre-test	2633.150	1	2633.150	0.757	0.392	0.027	0.134
	Group	520747.471	1	520747.471	149.705	0.00	0.847	1.00
	Error	93919.717	27	3478.486				

This part of the results of this study is in line with the findings of the studies conducted by Khayatan Mostafavi (2015) [13], Ebrahimi et al. (2015) [14], and Luciano et al. (2014) [15]. In explaining these findings, and as pointed out by Wicksell et al. (2013) [1], in an acceptance and commitment-based approach the therapist seeks to aid the patient in identifying personal values that are considered an important path in their life (such as being a compassionate friend) and also helps the patients direct their efforts in order to achieve this goal. According to Hayes (2012) [9], negative pain-related thoughts and beliefs are strong and tend to emphasize a path that is away from positive values. Thus, by helping the patient understand and experience personal pain experiences as they are, the therapist seeks to aid patients in distancing themselves from those thoughts or neutralizing them without discussing whether the thoughts are correct or through functional analysis of the consequences of their action.

Main Hypothesis 2: Acceptance and commitment therapy is effective in the life quality of women with fibromyalgia syndrome. The results of this part of the research are directly and indirectly consistent with the findings of Sabour et al. (2016) [16], Behrouz et al. (2016) [17], Khalili (2012) [10], Sobouhi et al. 2015) [18], Luciano et al. (2014) [15], Agaglia et al. (2011) [19] and Hayes et al. (2010) [20].

In explaining these findings, it can be stated that commitment and acceptance training, which involves solving cognitive-behavioral problems, moment-by-moment awareness of emotions (mindfulness), and unconditional acceptance, causes patients with fibromyalgia strengthen the skills required to solve physical, psychological and social problems. Since these patients suffer from multiple cognitive distortions and dysfunctional thoughts, the activation of these thoughts not only causes the person to focus on themselves, devaluing and despairing about the future and thus reducing mood, but also has a great effect on the exacerbation of symptoms. Furthermore, since the goal of this treatment program is to create a different attitude or relationship with thoughts, feelings and emotions, it can be argued that due to the active attention of patients with fibromyalgia to the present and mindfulness, their quality of life is improved. In other words, women with fibromyalgia, who suffer from mental and physical problems caused by their disease, accept their physical and psychological feelings and symptoms during treatment sessions, and accepting and admitting these feelings reduces their excessive attention and sensitivity to report these symptoms, which in turn improves their coping with their illness and personal problems and they can create clearer goals for their survival [21]. Accepting thoughts as thoughts, feelings as feelings, and emotions as emotions - as they are, no more and no less - leads to a weakening of cognitive fusion. In addition, acceptance of internal events when one is not struggling with their distress, allows them to develop their behavioral pool, and they can use the time they gain in this way to carry out their valuable activities and commit themselves to a valuable and purposeful life. Therefore, one of the important dimensions of life quality, i.e. the spiritual dimension which refers to the purpose and meaning that one attributes to their life and the values that one pursues in life, is improved.

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Conclusion

Acceptance and commitment therapy has reduced the intensity of pain experience in women with fibromyalgia syndrome. Also, according to the final results of the research, acceptance and commitment therapy is effective in the life quality of women with fibromyalgia syndrome, in other words, ACT has improved the life quality of women with fibromyalgia syndrome. The practical suggestion of the research is that measuring the degree of psychological flexibility in women with fibromyalgia can have a significant effect on their pharmacological treatment process.

References

[1]. Wicksell RK, Kemani M, Jensen K, Kosek E, Kadetoff D, Sorjonen K, Ingvar M, Olsson GL.(2013). Acceptance and commitment therapy for fibromyalgia: a randomized controlled trial. *Eur J Pain;17*(4):599-611

[2]. Masuda A, Tully EC.(2012.The role of mindfulness and psychological flexibility in somatization, depression, anxiety, and general psychological distress in a nonclinical college sample. *J Evid Based Complement Altern Med;17*(1):66-71.

[3]. McCracken, L M., & Velleman, S C. (2010). Psychological flexibility in adults with chronic pain: A study of acceptance, mindfulness, and values-based action in primary care. Pain, 148(1), 141-147.

[4]. Kalia V, Knauft K, Hayatbini N (2021) Adverse childhood experiences (ACEs) associated with reduced cognitive flexibility in both college and community samples. PLoS ONE 16(12): e0260822.

[5]. Wolfe F, Smythe HA, Yunus MB, Bennett RM, Bombardier C, Goldenberg DL and et al. (1990).The American College of Rheumatology, Criteria for the Classification of Fibromyalgia. Report of the Multicenter Criteria Committee. *Arthritis Rheum; 33*(2): 160-72.

[6]. Rothenberg R. 2007.Fibromyalgia documentation & treatment: A guide for primary care professionals. *Fibromyalgia Frontiers; 15*(1): 11-6.

[7]. Mottaghi, P. (2011). Fibromyalgia, clinical manifestations and non-pharmacological treatments. *Behavioral Science Research*, 9 (5): 460-452

[8]. Drotar D .(2004). Validating measures of pediatric health status, functional status, and Health-Related Quality of Life: Key Methodological Challenges and Strategies. *Ambulatory pediatrics; 4*(4):358-364.

[9]. Hayes,S.C, Strosahl KD. (2012). *A practical guide to acceptance and commitment therapy. New York: Springer* .Science and Business Media Inc.

[10]. Khalili, M. (2012). *Investigating the relationship between self-control and life quality of couples in Isfahan*. B.A Thesis in General Psychology, Payame Noor University, Najafabad.

[11]. Zare, H; Mohammadi, N.; Mottaghi, P; Afshar, H.; Pourkazem, L. (2014). The effect of adjusted mindfulness-based cognitive therapy on pain catastrophizing, acceptance and pain intensity in patients with fibromyalgia, *Health Psychology*, 3 (4): 114-93.

[12]. Eifert, G. H., & Forsyth, J. P. (2005). *Acceptance and Commitment Therapy for anxiety disorders: A practitioner's treatment guide to using mindfulness, acceptance, and values-based behavior change strategies*. New Harbinger: Oakland, CA.

[13]. Khayatan Mostafavi, P. (2015). Group training based on acceptance and commitment therapy on emotional divorce and pain catastrophizing in women with fibromyalgia. The first national congress of the third wave of behavioral therapies of Kashan University of Medical Sciences and Health Services.

[14]. Ebrahimi, A.; Afshar, H.; Anwari, M. H; Neshat Doust, H. T; Abedi, A. and Nasiri, H. (2015). The effectiveness of group acceptance and commitment therapy on pain catastrophizing indices, intensity of debilitating pain and life satisfaction of patients with chronic pain. The first national

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[DOR: 20.1001.1.23222913.2022.11.1.5.6]

congress of the third wave of behavioral therapies of Kashan University of Medical Sciences and Health Services.

[15]. Luciano JV, Guallar JA, Aguado J, López-Del-Hoyo Y, Olivan B, Magallón R, Alda M, Serrano-Blanco A, Gili M,Garcia-Campayo J.(2014). Effectiveness of group acceptance and commitment therapy for fibromyalgia: a 6-month randomized controlled trial (EFFIGACT study). *Pain;155*(4):693-702.

[16]. Sabour, S. and Kakabaraei, K. (2015). The effectiveness of acceptance and commitment group therapy on the rate of depressive symptoms, stress and pain indicators in women with chronic pain. *Journal of Rehabilitation Research in Nursing*, 2 (4): 9-1.

[17]. Behrouz, B; Buali, F; Heidarizadeh, N.; Farhadi, M. (2015). The effectiveness of acceptance and commitment therapy in psychological symptoms, coping styles and quality of Life in type II siabetes patients, *Journal of Health*, (7) 2: 153-136.

[18] Sabouhi, Ry; Fatehizadeh, M.; Ahmadi, A.; Etemadi, A. (2015). The Effect of counseling based on acceptance and commitment approach on the life quality of women referring to cultural centers in Isfahan, *Journal of Cognition Psychology and Psychiatry*, (2) 1, 52-42.

[19]. Aguglia, A., Salvi, V., Maina, G., Rossetto, I., & Aguglia, E. (2011). Fibromyalgia syndrome and depressive symptoms: Comorbility and clinical correlates. *Journal of Affective Disorders*, 128: 262–266.

[20]. Hayes,S.C, Strosahl KD.(2010). *A practical guide to acceptance and commitment therapy*. New York: Springer .Science and Business Media Inc.

[21]. Izadi, R. and Abedi, M. (1393). *Acceptance and Commitment Therapy*, Tehran: Jangal Publication Inc.

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[DOR: 20.1001.1.23222913.2022.11.1.5.6]