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The effectiveness of acceptance and commitment approach on quality of life and body image in patients with skin disorders by modulating emotional reactivity

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ABSTRACT

Background and Aim: Psychosomatic disorders of the skin include skin diseases in which psychological causes and consequences or accompanying conditions have a fundamental and therapeutic effect on the disease process. The aim of this research is to investigate the effectiveness of the acceptance and commitment approach on quality of life and body image by modulating emotional reactivity in patients with skin disorders. **Methods:** In this quasi-experimental research, pre-test and post-test were used for two experimental and control groups, and the follow-up phase was implemented after two months. The statistical population included all patients with skin disorders in Tabriz, 15 people with high reactivity and 15 people with low reactivity in the acceptance and commitment group, and 15 people with low reactivity and 15 people with high reactivity in the control group. They were randomly replaced. World Health Organization quality of life questionnaires and body image scale (1990) were used as data collection tools. Analysis of variance with repeated measurements was used to analyze the data. **Results:** The results of the analysis of variance with repeated measurements showed that the approach based on acceptance and commitment has created a significant increase in the body image ($P<0.01$) and the quality of life ($P<0.01$) of patients with skin disorders. And these results remained stable in the two-month follow-up ($P<0.05$). Also, the results showed that the interactive effect of emotional reactivity and group has no significant effect on quality of life and body image. **Conclusion:** Teaching interventions based on acceptance and commitment are effective in improving the quality of life and body image in patients with skin disorders.

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Introduction

Every year, thousands of people refer to dermatologists due to skin disorders such as acne, psoriasis, lupus, psoriasis, and vitiligo and other skin disorders. Most of these people have a disorder in their body parts. In the meantime, the disorder in the face and parts that are not covered causes people to suffer mental tension and distress more than other parts. In other words, a disorder in the organs causes a disorder in a person's self-concept and body image. Body image, which is one of the specific components of self-concept, includes the conscious and unconscious understanding of the body in relation to gender, appearance, health, age, physical activity, physical integrity, and the like. Self-concept is a cognitive dynamic process and an organized understanding of one's body, which is influenced by cultural, social factors and psychological variables (Kavehzadeh et al., 2016). Body image is a mental image that every person has of the size and shape of his body, and it is also the feeling that a person has towards each and every part of his body. The perception of the body is a multidimensional phenomenon that includes cognitive (a person's thinking about his body), perceptual (touch, vision) and emotional (a person's feeling about himself) dimensions. A person's perception of his body leads to overestimation or underestimation of the size of parts of the body, and the resulting emotional and cognitive changes are related to feelings of dissatisfaction and concern about the person's shape and organs. Body image is one of the psychological constructs and a central concept for health psychologists (Zadehsan & Siraj Khorrami, 2016). A person's body image also affects the psycho-social quality of his life (Cash & Fleming, 2012).

The concept of quality of life emerged in the late 1960s and early 1970s as part of social life indicators. Quality of life, mostly in the field of medicine, has been used to measure and measure the type and states of the disease and its impact on different dimensions of life (Aghapour & Masri, 2011). Quality of life has a multidimensional and complex concept and includes objective and subjective factors and is often defined as a specific understanding of physical health, social and family health, hope, manners of satisfaction with life, socializing and mental health of the patient. (Mardani Hamuleh & Shahraki Vahad, 2010). The subjective dimension refers to the concept of being good, life satisfaction or happiness, while the objective dimension depends on the aspects of social performance and the environment of the individual (Shah et al., 2018). The World Health Organization defines quality of life as a person's perception of his life situation and attention to the culture and value system in which he lives and the relationship of this perception with his goals, expectations, standards and priorities. (Rejeh et al., 2014). This definition includes a wide conceptual scope that is affected by the physical health of individuals, psychological status, levels of individual independence, social relationships, individual beliefs, and concepts hidden in the personal life of individuals.

In a study conducted in Germany on 265 patients with skin disorder (psoriasis); 32% of patients were depressed and a significant relationship was found between the symptoms of the disease and the severity of depression. Many patients experience self-image problems, self-confidence, poor psychological adjustment, feelings of stigmatization, shame and embarrassment due to their appearance. Also, the effects of skin disorders interfere with physical activities of patients such as sleep and daily activities (Zandi et al., 2011). Also, studies have shown that chronic skin diseases affect mental health and can cause a decrease in self-confidence and, as a result, a decrease in the quality of life (Potoka et al., 2019). Rapp et al. stated in 2004 that patients with skin disorder (acne) get angry earlier than other people, which can have a significant impact on the quality of life on the one hand and on satisfaction with treatment on the other hand (Molai et al., 2018). According to studies conducted in Belgium, Korea, Germany, Italy, skin disorders such as psoriasis and vitiligo have a great effect on the quality of life. These skin disorders leave bad effects on a person's personal and social life, lead to his social dysfunction, and as a result, have a major impact on the quality of life of patients (Abdi et al., 2012). There is a large consensus that skin disorders have a negative impact on the mental and emotional health of some patients. In fact, research has provided evidence that, among other things, the patient's appearance can change; have a profound emotional and cognitive behavioral impact on people suffering from these diseases (Babakhani Langroudi et al., 2016). Kalp (2011) stated in a study that patients with skin disorders have low

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mental resilience compared to normal people and avoid being in social situations and hide their skin lesions. Resilience is another factor that is affected by the disease in patients with skin disorders (Esmail Khani, Ahadi, and Mazaheri, 2009). On the other hand, skin patients have a distorted body image due to their appearance and perception of themselves. Kaviani et al. (2011) stated that skin patients perceive low body image and self-confidence and a high sense of shyness compared to normal people. In the studies conducted by Konti et al. (2015), a significant difference was observed between the two healthy groups and people with skin disorders regarding body image concerns and social anxiety; Body image concern and social anxiety were higher in people with skin disorders than healthy people. In Hamilton's study (2014), the resilience and quality of life of acne skin patients was much lower than normal people. Harth (2014) found that people with eczema had lower self-esteem, resilience and self-regulation than healthy people.

Of course, it should be noted that people are very different from each other in terms of their emotional reaction to exciting situations, and their mental experience of emotions plays an essential role in the conscious life of people and the way they cope with emotions and regulate them. Many theoretical models have emphasized the importance of emotion regulation and emotional reactivity in the creation and continuation of psychological damage or maintaining the mental health of people (Davidson, 2003). Emotional reactivity can be seen as a set of survival-enhancing states that prepares humans for action and leads them to behavioral responses related to stimuli (Tobi & Kasmid, 2011, cited by Sajjadinejadi & Chermehini, 2017). Emotional reactivity expresses different aspects of a person's emotional response to exciting stimuli and includes four different aspects of the response: A: capacity (content): the pattern of reactivity to positive emotions may not be the same as the pattern of reactivity to negative emotions. B: Intensity: Emotions do not appear with the same strength in all people. C: Threshold of activity: the strength of emotional stimuli that is required to trigger an emotional reaction is not the same in all people. D: Return time: The time it takes for emotional reactions to subside and activity levels to return to the baseline is also different in different people. In previous studies, it has been pointed out that the intensification of emotional reactivity is related to self-harmful behaviors and thoughts and psychological damage (Nock et al., 2015). Therefore, it can be expected that this structure is also related to mental health.

Considering that skin disorders are associated with significant psychological pressure and discomfort; Psychological treatments (Harth et al., 2014) can adjust these pressures and the severity of skin disorders in these patients; be useful. One of the treatments that may be useful for these patients; Therapy is based on acceptance and commitment, which has recently received the attention of researchers. Considering that the main process of treatment based on acceptance and commitment seeks to teach people how to stop inhibiting thoughts and how to get rid of disturbing thoughts and how to tolerate unpleasant emotions more; This treatment focuses on accepting beliefs instead of fighting with them, mindfulness, cognitive dissonance or describing thoughts and feelings without giving meaning to them, life based on the values and spirituality of the person. Also, the main focus of these treatments is more on the acceptance of the symptom rather than its reduction, as well as more flexible and adaptive ways of responding to the unpleasant internal stimulus (Hays and Strosal, 2013, quoted by Ahmadi et al., 2018). Accordingly, the main issue of the research is the effectiveness of treatment based on acceptance and commitment on quality of life and body image in male and female patients with skin disorders.

Method

The current research was a quasi-experimental type with a control group, which was conducted as a pre-test, post-test and follow-up. Also, the statistical population included 364 people with skin disorders who had referred to Sina Skin Specialist Hospital in Tabriz due to skin diseases (acne, legaris, vitiligo, psoriasis) in 2021-22. The method of sampling was purposeful and random selection of groups was simple. The sample size was determined based on the study of Homan and Delaware (2019) with alpha of 0.05, power of 0.8 and effect size of 0.89 and the statistical method of multivariate covariance analysis of 60 people. 40 people were randomly divided into two experimental groups (20 people with high reactivity and 20

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people with low reactivity) and control (20 people with high reactivity and 20 people with low reactivity). 60 people were selected based on the entry criteria (age 20 to 45 years, having at least a diploma, 6 months to 5 years since the illness, no mental disorder, no drug addiction and consent to participate in the research) Then they were assigned to two experimental and control groups by random block method. The exclusion criteria were absence of more than two sessions in the acceptance and commitment therapy process and participation in other intervention programs. The treatment approach based on acceptance and commitment was done as a group. So that 30 people were trained in the experimental group and 30 people were studied without training in the control group.

Materials

1. World Health Organization Quality of Life Questionnaire (1996): This questionnaire has 26 items and 4 subscales: physical health, mental health, social relationships, quality of living environment and a total score. According to the purpose of the research, in this study the quality of life was examined in general and its subscales were not examined. Nejat et al. conducted a study on 1167 people of Tehran to check the validity and reliability of this questionnaire. Retest reliability for physical health subscale was reported as 0.77, mental health as 0.77, social relations as 0.75, and environmental health as 0.84. In this research, the alpha coefficient of the total questionnaire scores was 0.89.

2. Body Image Questionnaire: Questionnaire of multidimensional body-self relationships is a 46-question test made by Cash (1990) and one of the methods of measuring body image slander is to use this questionnaire. The questions of the six-dimensional body-self relationship test include evaluation of appearance, orientation of appearance, evaluation of physical fitness, physical fitness orientation, mental weight, and body satisfaction according to a 5-point Likert scale. Cash (1990) has reported the internal consistency of the subscales between 0.79 and 0.94. In Ahmadnia et al.'s study (2008), the retest reliability of the subscales was reported between 0.69 and 0.89. In the Persian form of this questionnaire, Cronbach's alpha coefficient was calculated for all subscales from 0.79 to 0.94.

3. Acceptance and commitment therapy: The content of the acceptance and commitment sessions is based on the treatment plan developed by the model of Heyer et al., 2004. It is stated in table number 1.

Table 1. Summary of acceptance and commitment therapeutic approach sessions

Session	Content
1	Familiarity with the treatment process and meetings, establishing relationships with group members, psychological training, distribution of questionnaires
2	Discussing experiences and evaluating them, efficiency as a measure and creation of creative helplessness
3	Review of the assignment of the previous session expressing control as a performance measurement problem
4	Reviewing the experiences of the previous session, task and behavioral commitment, introducing fault, application of cognitive fault techniques, intervention in the performance of problematic loss chains.
5	Reviewing the experiences of the previous session, reviewing the task and behavioral commitment, self-observation as a context for weakening the self-concept and self-expression as an observer indicating the separation between self, inner experiences and behavior.
6	Reviewing the experiences of the previous session, measuring the performance of the application of mindfulness techniques, the contrast between experience and the mind, modeling the output of the mind, and training to see the experiences within.
7	Reviewing the experiences of the previous session, reviewing the task of measuring performance, introducing the concept of value, showing risks, focusing on results and discovering the practical values of life
8	Reviewing the experiences of the previous session, reviewing homework, understanding the nature of desire and commitment, and determining action patterns in accordance with values

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Implementation

Considering that at the beginning, the psychologist asked the person about the history of mental disorder; Therefore, none of the subjects had a history of psychological disorders. The diagnosis of this stage was the responsibility of the psychologist. Then, all people in the sample group completed the informed consent form, quality of life and body image questionnaires. Acceptance and commitment therapy sessions were in accordance with the protocol of 8 sessions, three days a week for 90 minutes, and this training was conducted by a psychologist. The control group did not receive any training. One week after the end of the group sessions, the post-test and eight weeks later, the follow-up was done. Also, the participants were free to leave the research at any time. Data analysis was done by repeated measurement analysis of variance using SPSS20 software. In addition to the following questionnaires, the research tools included demographic questions about age, education and employment status, which were written at the beginning of the questionnaire before entering the main questions.

Results

In terms of demographic indicators, the age of the participants was between 20 and 45 years, and most of them were in the age range of 26 to 30 years. Also, in terms of employment status, most of the subjects were employed.

Table 2. Mean and standard deviation of quality of life and body image

Groups		Quality of life		Body image	
		Mean	SD	Mean	SD
Exp.	Pre-test	75.42	8.83	192.57	9.22
	Post-test	81.40	9.67	238.52	10.42
	Follow-up	80.73	10.71	234.55	8.84
Control	Pre-test	75.61	8.58	185.57	9.22
	Post-test	75.97	10.99	184.72	10.99
	Follow-up	73.37	9.14	178.99	11.01

Descriptive findings in Table 2 show the mean scores of the pre-test, post-test and follow-up phase of quality of life and body image variables in the two experimental and control groups. The results of the Kolmograph-Smirnov test showed that in all stages of measurement of both dependent variables, the obtained Z value was not significant (P<0.05) and the data had a normal distribution. Also, the results of Levene's test indicated that the F values obtained with the degrees of freedom (df = 1 and 78) are not significant (P < 0.05), so there is no significant difference between the error variances of the groups and the assumption of homogeneity of the error variances has been observed. In addition, the Mbox test results showed that the values obtained for the quality of life and body image variables with degrees of freedom (6 and 132.24373) are not significant at the 0.005 level and it can be said that the assumption of equality of covariance matrices has been met. Also, the results of Mauchly's sphericity test showed that the significance levels were greater than 0.05; Therefore, the homogeneity of covariances has been observed in the case of variables. According to the pre-assumptions, the use of variance analysis test with repeated measurement is allowed.

Table 3. Results of analysis of variance with repeated measurements for between-group and within-group effects

Source	Effect	SS	df	MS	F	P	Eta^2	Power
Within-group effects	quality of life (time)	282.615	2	166.078	11.505	0.001	0.511	1

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Between-group effects	Quality of life and group	201.091	2	172.933	12.500	0.001	0.347	1
Within-group effects	body image (time)	450.79	2	546.078	14.12	0.001	0.33	1
Between-group effects	Body image and group	241.56	2	123.25	13.40	0.001	0.32	1

As shown in Table 3; A significant difference was observed between pre-test, post-test and follow-up scores in quality of life and body image (P<0.01). In examining the interaction effect between the test stages and the groups, the results showed that there was a significant interaction effect between the pre-test, post-test and follow-up factor scores and the groups in the variables of quality of life and body image (P<0.01). Also, the impact or difference (eta square) and the statistical power of each variable are presented in Table No. 5. In addition, this table shows that the scores of the acceptance and commitment therapy group are higher than the control group in both quality of life and body image variables, and this difference is significant at the error level of 0.05.

Table 4. Paired t-test results for the two-by-two comparison of the test stages in the experimental and control groups

		Pre-test	Post-test	Pre-test	Follow-up	Post-test	Follow-up
Variables	Group	Mean diff.	Sig.	Mean diff.	Sig.	Mean diff.	Sig.
Quality of Life	Exp.	5.87	0.0001	5.34	0.0001	0.53	0.114
	Control	1.87	0.063	1.76	0.066	0.11	0.324
Body image	Exp.	10.76	0.0001	10.17	0.0001	0.93	0.107
	Control	0.26	0.76	1.54	0.068	1.34	0.44

According to the results of the paired t-test in Table 4, there was a significant difference between the mean of quality of life in the experimental group in the comparison of the pre-test-post-test and pre-test-follow-up phases (P<0.0001), but no significant difference was obtained in the comparison of the post-test-follow-up phases. (P<0.05). This means that the quality of life has increased significantly after the therapeutic approach of acceptance and commitment, and this increase has remained stable after two months.

Conclusion

This research was conducted with the aim of the effectiveness of the therapeutic approach of acceptance and commitment on quality of life and body image by modulating emotional reactivity in patients with skin disorders. The obtained results showed that there is a significant difference between the pre-test and post-test scores in the variables of quality of life and body image; However, there is no significant difference between post-test and follow-up scores. One of the reasons for the non-permanence of the effect of the intervention is the short time interval between the post-test and the follow-up that there is a possibility that the answers to the questionnaire questions will remain in the minds of the respondents. On the other hand, due to the lack of more time, a two-month follow-up was conducted after the end of the acceptance and commitment therapy approach. Therefore, it is possible that due to the course of changes and the use of repeated measurements, the effect of the tool may have influenced the results. Acceptance is related to the use of problem-oriented and active methods and the ability to cope more, and it is an important factor to help patients cope with their situation better and feel better. Through various exercises and metaphors, patients learn that it is possible to experience strong emotions or pay attention to strong physical feelings; Without harming them, Strausshall (2003). Also, by using these metaphors, the patient is helped to stop controlling and avoiding all thoughts and feelings, physical symptoms, memories and unpleasant desires that have arisen for him due

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to concern about his body image. Delineating important areas of life like a compass keeps the patient committed to a rich life path. Accepting and defining the values helps to increase the patient's adaptation and puts the cost and time he has spent avoiding or fighting with his thoughts about his body image in the direction of enriching his life; Body image, like overall satisfaction, changes during life under its influence, Topson et al. (2004). Considering that one of the goals of the act is to find a replacement for the self that is defined by thoughts, feelings, memories and bodily sensations (conceptualized self) Izadi et al. (2005), this treatment can; be effective Using the chess metaphor, we teach our clients how we can be more like a chess board. The relationship between the chess board and the pieces is infinite; But it does not enter into this battle, the self-observer helps the patient to see himself apart from the evaluations that his mind makes and understand that they are not real, this helps to improve the person's self-image Harris (2007) connection with The present tense means being here and now; Being fully aware of our experience instead of being lost in our thoughts, which itself involves flexible attention to the inner psychological world and the outer material world. Communication with the present is very important in the process of defusion and acceptance. The first step in disassociating a thought or accepting a feeling is to pay attention to it Harris (2007). In general, due to the effect of different methods; Just like using the mind, accepting and increasing a person's self-awareness of his abilities and values in his life can lead to a positive image and efficiency (despite physical differences from others) in him, and lead to satisfaction, pleasure and increased psychological flexibility.

Considering that treatment based on acceptance and commitment has a very realistic view of the human condition and starts with the point that life is full of pain; It doesn't matter how good our life is, it will still be accompanied by a lot of pain. All humans have painful feelings and negative thoughts; So, despite these problems, patients should learn to live a rich, complete and meaningful life. In this research, the therapy based on acceptance and commitment taught people to actively and consciously accept unpleasant life experiences without the person needlessly trying to change their life conditions or trying to tolerate unpleasant conditions; That is, people learned how to actively and enthusiastically face emotions, memories, and physical sensations, in other words, one's thoughts; He does not run away from problems, but learns to be flexible in any situation. Accepting this treatment does not mean giving up or tolerating annoying and traumatic life situations that people really have the power to change. Hayes defined acceptance as making contact with the action of direct or automatic stimuli of events, without acting on their verbal and inferential functions. In this research, people learned to be more connected with the present and live more in the present than in the past and future. Determined their value and goals in life to accept what they cannot change and focus more on the process of life than the results of their performance. In this treatment, behavioral commitment exercises along with the techniques of acceptance and failure, as well as detailed discussions about the values and goals of the individual, the need to specify values and use metaphors, led to a reduction in the severity of the problems of patients with skin disorders that affected their quality of life. In this therapy, the goal of placing so much emphasis on people's desire for internal experiences is to help people experience their disturbing thoughts as just a thought. In fact, in this type of therapy, people are taught to accept rather than control internal events, and to clarify and address their values. In this treatment, people learned to accept their feelings to the point of distancing themselves from them and to pay more attention to their thoughts and thinking process through mindfulness and connect them to goal-oriented activities. Since this treatment is less focused on reducing symptoms and more focused on increasing the quality of life; It could improve the quality of life of patients with skin disorders. Based on the findings of this research, it can be concluded that treatment based on commitment and acceptance can be used to increase the quality of life of patients with skin disorders. It is suggested to use acceptance and commitment-based treatment for patients with skin disorders of different degrees in future researches. Also, this research should be done with other psychological treatments to compare the effectiveness of this type of treatment with other treatments. In future researches, random sampling method should be

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used, as well as prolonging the treatment period, so that people have enough time to practice and change. But despite this, the research also had limitations that should be taken into account in the generalization of the research findings. First, due to the time limit, it was not possible to conduct long-term follow-up studies, and therefore there is no information available to show whether the changes made were stable in the long term or not.

Conflict of Interest

According to the authors, this article has no financial sponsor or conflict of interest.

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