**Original Article**

# Comparison of the Cognitive-behavioral Therapy and Acceptance and Commitment Therapy on Resilience and Diagnostic Factors in Patients with Chronic Pain

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## Abstract

**Introduction**: The need for research was felt that chronic pain is one of the most common pains in patients with psychological problems and the use of psychological therapies. This study aimed to compare the performance of CBT and ACT on resilience and diagnostic factors (CBC-ESR-CRP) in patients with chronic pain in Tehran.

**Method:** This study was applied in terms of purpose and quasi-experimental in terms of research design method and was pre-test and post-test with the control group. The statistical population in this study consisted of all people with chronic pain disorders who referred to private orthopedic clinics in Tehran and sampling was done with a purposive approach. 36 people were selected by purposive sampling method. After selection was based on entry and exit criteria, 24 people were selected and randomly assigned to two experimental groups (cognitive therapy group and act therapy group) and control (a group of 12 people). Participants completed Resilience Questionnaire (Conner-Davidson Resilience) before and after the interventions.

**Results**: The findings of this study showed that both ACT and CBT approaches have the necessary effect on resilience, and diagnostic factors (of course, on two of them, ESR-CRP). The findings show that there is no significant difference between the ACT and CBT approaches

**Conclusion**: Therefore, CBT and ACT were effect on resilience and diagnostic factors (CBC-ESR-CRP) in patients with chronic pain.

**Declaration of Interest:** None

## *Introduction*

*P*ain is one of the inner experiences that most patients with chronic pain believe is a sign of injury and should be avoided. For this reason, they try to reduce pain and avoid activity (1) and this is while one of the important causes of physical (functional) and social disability chronic pain (2). Unlike acute pain, chronic and persistent pain usually has no alarming biological function and is one of the issues that affect patients' resilience for a variety of reasons, given that chronic pain affects a wide range of diseases such as rheumatic, psychological, orthopedic diseases, etc., a large number of people in the community may suffer from chronic pain (3). People with chronic pain have to spend a lot of money on their disease. They also suffer a lot of damage due to disorders in a job, which causes psychological problems in these people, and the side effects of severe pain may prevent the patient from normal physical activity and be accompanied by a decrease in social relationships (4). Many experts believe that chronic pain is one of the most common human sufferings. This pain, in addition to the suffering it causes on the patient, imposes an exorbitant price on society. In the United States, chronic pain costs nearly $ 100,000 billion a year (5). In Iran, the 6-month prevalence of persistent chronic pain in the general adult population (18 to 65 years) has been reported from 9% to 14% and in the elderly population (62 to 92 years) about 67% (4).

Resilience is one of the most important things in people with chronic pain (6). Resilient people have higher levels of mental health and more control skills (7) and have social support, which helps them

cope with problems and tensions (6). Among the possible treatments that can affect the resilience of patients with chronic pain are cognitive-behavioral psychotherapy (CBT) approaches and acceptance and commitment therapy (ACT).

ACT has a philosophical root in relational frame theory (RFT) and has six central processes, including acceptance, diffusion, self-context, and communication with the present, values, and committed action that lead to greater individual flexibility (8,9). Also, according to Heidari et al, (9) ACT reduces anxiety and physiological stress in the person by increasing one's awareness of the present. On the other hand, the results reported in the study of Cheung et al, (10) show that cognitive-behavioral therapy and therapy can regulate anxiety sensitivity in individuals. Acceptance and commitment therapy encourages the individual to accept and integrate into his, her life experiences to challenge emotional responses and to identify the controlling dimensions to which specific contextual situations apply, Acceptance and commitment therapy is influenced by functional contextualism, a practical philosophical situation that recognizes that psychological events (including cognition, emotional responses, and behavior) are influenced by antecedents in a particular context (9). The main psychological processes are acceptance, cognitive fusion, self as a context, values, presence, and committed action (11).

Acceptance and commitment therapy is a process-oriented approach that is known as one of the third-wave psychotherapies (12). Counseling therapy approaches, such as cognitive-behavioral therapy, work by preventing unpleasant thoughts and

feelings. However, in commitment and acceptance therapy, the patient is helped to accept the pain caused by unpleasant thoughts and feelings, and the patient commits that pain is an inevitable aspect of life for all and tries to avoid suffering from pain as an unpleasant feeling (13). What sets commitment and acceptance therapy apart from other therapy methods is the use of metaphor, which makes treatment sessions more attractive and dynamic for patients. Commitment and acceptance therapy focus directly on an efficient and valuable life. Therefore, this approach improves performance through psychological flexibility (14).

Cognitive-behavioral psychotherapy, on the other hand, is a psychological approach based on scientific principles, and research has shown that it is effective for a wide range of problems. This approach usually focuses on existing problems and depends on the client and therapist who have a common view of the individual's problem. This leads to the identification of personal and usually limited treatment goals and strategies that are constantly reviewed and evaluated (15). Cognitive-behavioral psychotherapy is inherently strong and results in a focus on specific psychological and practical skills that aim to enable the client to deal with problems using their resources. Therefore, the overall goal is to attribute the improvement of your problems to your efforts in cooperation with psychotherapy (16). Cognitive-behavioral therapy strategies have been used successfully to predict the start, intensity improvement, and deviation of the long-term consequences of problematic behaviors in individuals. In a wide range of ongoing care, many model programs' cognitive-behavioral therapy strategies have been included successfully to

influence positive changes (17). The CBT approach has a positive effect on patient resilience (18). Resilience is associated with positive emotions that play a protective role against mental and physical damage (19). Various treatment methods have been developed to treat patients with chronic pain. One of the methods that have been proven to be effective in patients with chronic pain is cognitive-behavioral therapy. In cognitive-behavioral therapy, the patient is helped to reconsider his. her point of view according to idealistic criteria and methods of coping with events, and to refrain from self-criticism and find better ways to cope with the situation (20).In the method of cognitive-behavioral therapy, the patient's beliefs and aspirations improve the patient's self-efficacy and competence in terms of the possibility of stress control and efficient coping with problematic situations, and reduce the patient's feeling of inability and improve the patient's negative feelings (21).

Counseling increases the range of communication between patients and resistance to the harmful consequences of the disease and reduces worry, increases awareness, activity, influence on decision-making, and increases self-confidence. In various studies to survey coping strategies to reduce the psychological alarm of such patients, the group counseling program has been emphasized, and the results indicate the improvement of patients' positive perception of social support, psychosocial adjustment and ability to cope with illness and performance level and reduce depression and anxiety (22). Intensify of the disease symptoms will lead to a mental disability, which in addition to the disability caused by her. His physical symptoms. In the psycho-social dimension

of the treatment of chronic patients, it is sometimes necessary to help them accept that they can change their horizons and can enjoy other abilities, and this disease can not destroy their family life and vitality. Patients must accept that some realities of life are not under their control and adapt to new living conditions (23).

The results of theoretical and experimental studies showed that the CBT and ACT approach could also affect resilience in patients with chronic pain. However, the effect of CBT and ACT on diagnostic factors in patients with chronic pain is one of the study gaps that has not been studied so far. In other words, can the CBT and ACT approaches, in addition to the possible effects on resilience in patients with chronic pain, also report a significant effect on the physiological status of these patients? Accordingly, in this study, three hypotheses were examined the performance of CBT and ACT approaches on resilience is different in patients with chronic pain in Tehran, and the performance of CBT and ACT approaches to diagnostic factors (CBC-ESR-CRP) is different in patients with chronic pain in Tehran.

**Method**

This study was applied in terms of purpose and causal-comparative in terms of strategy and it was done by field research. The research design method and participants of this study were quasi-experimental and its research design was pre-test and post-test with a control group. Also, to conduct research, at first, after obtaining the necessary permits and coordination, by referring to private orthopedic clinics, the necessary action was taken to distribute and collect research questionnaires. The statistical population in this study consisted of all people with chronic pain disorders who referred to private orthopedic clinics in Tehran and sampling was performed by purposive method. 36 people were selected by purposive sampling method. After selection was based on entry and exit criteria, 24 people were selected and randomly assigned to two experimental groups (cognitive therapy group and act therapy group) and control (a group of 12 people. i.e., 12 samples were placed in each group). Entry criteria included: (1) a score below 50 on the resilience scale, (2) not having any diagnosed mental disorder, which was assessed through a semi-structured interview, version number five, (3) people under the age of 50, (4) female gender, (5) at least a diploma (who can answer the questions correctly) (6), Participation in all treatment sessions. Also, the exit criteria were: (1) unwillingness to continue treatment, and (2) absence of more than two sessions in treatment sessions. After determining the sample size and performing a pre-test, random assignment was performed in three groups, and cognitive-behavioral therapy was performed in the first group and acceptance and commitment therapy in the second group and no intervention was performed in the control group. Then post-test was taken from all participants in this study. Follow-up was performed after 2 months. The experimental group received acceptance and commitment intervention as well as cognitive and behavioral therapy in 8 sessions. At the end of the treatment sessions, the research tool was performed again as a post-test on the participants.

In this intervention, 2 therapy packages and 2 standard questionnaires were used

(the questionnaires were related to patients' resilience).

**Interventions**

In cognitive-behavioral therapy based on the therapy package, the subjects were taught during 8 sessions 2-hour of psychotherapy according to Table 1.This package is taken from research (19).

**Table 1:** Cognitive-behavioral therapy sessions

| Session | Characteristic |
|---------|----------------|
| First | Initial familiarity, introduction, and evaluation: discussion about the effect of pain, the conceptualization of client from pain and its medical-psycho-social consequences, presentation of the therapy process, therapy goals |
| Second | Introduction the course cycle: Expression of pain gate control theory. What closes the pain, which opens the gate؟, muscle relaxation techniques. |
| Third | Explain spontaneous thoughts. Explain how thoughts lead to emotions, discover the relationship between emotions and pain, muscle relaxation. |
| Fourth | Evaluating Useless Thoughts: Remind the patient to have a quick overview of spontaneous thoughts. Cognitive error: The way of thinking is based on wrong assumptions or misinterpretations. |
| Fifth | Determining affirmative and rejecting evidence of negative spontaneous thoughts: distraction through pleasant activities |
| Sixth | Stress and its control: Proper rational replacement rather than useless spontaneous thoughts and muscle relaxation |
| Seventh | What is anger? and the relationship between fear, anger, and pain |
| Eighth | Sleep health and ways to improve sleep |

Acceptance and commitment therapy will be applied to the experimental group during 8 sessions of 90 minutes. The therapy protocol used by Vowles and Sarel (Rezaian et al., 2014) was taken. The minutes of the training sessions were as follows (Table 2):

**Table2**. Acceptance and commitment therapy sessions

| Session | Characteristic |
|---------|----------------|
| First | 1- familiarity and communication with group members; 2- distribution of questionnaires; 3- adjusting the rules and regulations of the group; 4- overview of therapy and program goals; 5- reviewing the basic foundations of therapy; 6- homework assignments. |
| Second | 1- Homework review; 2- examining the relationships between pain, mood, and work; 3- introducing and defining awareness. |
| Third | 1- Practicing awareness and homework review; 2- Exploring about values; 3- Definition and training of acceptance of chronic pain |
| Fourth | 1- homework review; 2- clarification of goals and values; 3- examining the barriers of values; 4- positioning the goals and introducing the activities that they commit to; 5- practicing awareness. |

| Fifth | 1-homework review; measuring the activity cycle of a person during the day; 3- teaching mind techniques; 4- awareness |
| Sixth | 1-homework review; 2- progress review; 3- planning for action against action; 4- awareness and introduction of the observer's conscience; 5- taking me out of action. |
| Seventh | 1- Homework review; 2- definition of desire; 3- a commitment to obstacles; 4 - awareness. |
| Eighth | 1 - Commitment; 2- Preventing returns and interruptions; 3- Say goodbye to the group; 4- Lifetime homework. |

**Resilience Questionnaire (Conner-Davidson Resilience):** The resilience questionnaire was prepared by Connor and Davidson (24) by reviewing the research resources in the field of resilience in 1991-1999. Investigation of psychometric properties of this scale was performed in six groups, the general population, primary care patients, psychiatric outpatients, patients with a generalized anxiety disorder, and two groups of patients with post-traumatic stress disorder. The Connor & Davidson Resilience Questionnaire consists of 25 items that are scored on a Likert scale between 0 (completely incorrect) to 5 (always correct) with a score of External Reliability: Connor and Davidson reported the Cronbach's alpha coefficient of the Resilience Scale as 0.89. Also, the reliability coefficient obtained from the retest method in a 4-week interval was 0.87.

**Diagnostic factors:** To measure diagnostic factors, samples were referred to the laboratory and blood measurements were performed.

**Results**
Tables 3 and 4 present the results of the descriptive analysis for each of the variables (in the ACT experimental groups and the CBT experimental group):

**Table 3:** Descriptive analysis of the resilience of the experimental group (pre-test)

| ACT test. Pre-test | Mean (M) | Standard Deviation (std) | Least | Most |
|---|---|---|---|---|
| Perception of individual competence-pre-test | 16.08 | 16.08 | 10 | 24 |
| Trust in individual instincts tolerate negative emotion-pre-test | 12.92 | 12.92 | 6 | 18 |
| Positive acceptance of change and | 8.33 | 8.33 | 1 | 14 |

| safe relationships -pre-test | | | | |
|---|---|---|---|---|
| Personal control-pre-test | 4.25 | 4.25 | 1 | 9 |
| Spiritual effects - pre-test | 3.67 | 3.67 | 2 | 7 |
| Resilience - pre-test | 45.25 | 45.25 | 36 | 49 |
| **CBT test.  Pre-test** | **Mean (M)** | **Standard Deviation (std)** | **Least** | **Most** |
| Perception of individual competence-pre-test | 16.17 | 2.517 | 12 | 21 |
| Trust in individual instincts tolerate negative emotion-pre-test | 13.42 | 3.630 | 7 | 19 |
| Positive acceptance of change and safe relationships -pre-test | 9.33 | 2.605 | 6 | 14 |
| Personal control-pre-test | 4.17 | 1.586 | 1 | 6 |
| Spiritual effects - pre-test | 3.83 | 1.749 | 1 | 7 |
| Resilience - pre-test | 46.92 | 2.275 | 42 | 49 |
| **ACT test. Post-test** | **Mean (M)** | **Standard Deviation (std)** | **Least** | **Most** |
| Perception of individual competence-post -test | 24.42 | 2.575 | 20 | 20 |
| Trust in individual instincts tolerate negative emotion-pre-test | 16.25 | 2.800 | 11 | 11 |
| Positive acceptance of change and safe relationships - post -test | 12.42 | 2.065 | 8 | 8 |
| Personal control- post -test | 6.08 | 1.975 | 3 | 3 |
| Spiritual effects - post -test | 5.25 | 1.215 | 3 | 3 |
| Resilience - post -test | 64.42 | 4.100 | 58 | 58 |
| **CBT test. Post-test** | **Mean (M)** | **Standard Deviation (std)** | **Least** | **Most** |
| Perception of individual competence-post -test | 22.75 | 2.491 | 17 | 26 |
| Trust in individual instincts tolerate negative emotion- post -test | 16.08 | 3.288 | 10 | 22 |
| Positive acceptance of change and safe relationships - post -test | 12.00 | 2.697 | 8 | 17 |
| Personal control- post -test | 6.92 | 2.314 | 3 | 11 |
| Spiritual effects - post -test | 5.50 | .905 | 4 | 7 |
| Resilience - post -test | 63.25 | 4.025 | 57 | 70 |
| **Follow-up of the ACT** | **Mean (M)** | **Standard Deviation (std)** | **Least** | **Most** |
| Perception of individual competence-Follow-up stage | 23.33 | 2.103 | 20 | 27 |
| Trust in individual instincts tolerate negative emotion-Follow-up stage | 16.17 | 2.082 | 13 | 20 |
| Positive acceptance of change and safe relationships -Follow-up stage | 12.17 | 2.290 | 8 | 15 |

| | Mean (M) | Standard Deviation (std) | Least | Most |
|---|---|---|---|---|
| Personal control-Follow-up stage | 5.83 | 1.528 | 4 | 9 |
| Spiritual effects - Follow-up stage | 5.17 | .835 | 4 | 6 |
| Resilience - Follow-up stage | 62.67 | 3.200 | 58 | 68 |
| **Follow-up of the CBT** | **Mean (M)** | **Standard Deviation (std)** | **Least** | **Most** |
| Perception of individual competence-Follow-up stage | 22.17 | 1.528 | 20 | 24 |
| Trust in individual instincts tolerate negative emotion-Follow-up stage | 15.67 | 1.435 | 14 | 19 |
| Positive acceptance of change and safe relationships -Follow-up stage | 11.75 | 2.832 | 8 | 17 |
| Personal control-Follow-up stage | 6.58 | 1.730 | 3 | 9 |
| Spiritual effects - Follow-up stage | 5.33 | .985 | 4 | 7 |
| Resilience - Follow-up stage | 61.50 | 3.631 | 57 | 67 |

The findings reported in Tables 3 showed that in all subscales, i.e. perception of individual competence, trust in individual instincts, tolerance of negative emotions, positive acceptance of change and safe relationships, personal control, and also spiritual effects, there is a significant difference between the pre-test with post-test in both experimental groups, ie the group with ACT and CBT intervention. On the other hand, in the last line, the final value for the general scale, i.e. resilience Tables 4 present the results of the descriptive analysis of the experimental group for the diagnostic factors variable:

for ACT and CBT groups in the pre-test stage, was equal to 45.25 and 46.92, respectively, while in the post-test stage, the mean values were reported to be 64.42 and 63.25. A comparison of the scores obtained with the post-test stage shows that the mean value for resilience in the follow-up stage was not significantly different. This shows that the effectiveness that has been achieved has also been observed in the follow-up stages and its amount has not been significantly reduced.

**Table 4**: Descriptive analysis of diagnostic factors of the experimental group

| ACT test. Pre-test | Mean (M) | Standard Deviation (std) | Least | Most |
|---|---|---|---|---|
| ESR | 24.67 | 2.674 | 21 | 28 |
| CRP | 24.75 | 2.379 | 21 | 27 |
| WBC | 8.00 | 1.595 | 6 | 11 |
| RBC | 3.75 | 1.658 | 2 | 6 |
| **CBT test. Post-test** | **Mean (M)** | **Standard Deviation (std)** | **Least** | **Most** |
| ESR | 25.00 | 2.449 | 22 | 28 |
| CRP | 25.17 | 3.157 | 20 | 30 |
| WBC | 8.42 | 1.564 | 6 | 11 |
| RBC | 3.58 | 1.730 | 2 | 6 |

| ACT test. Pre-test | Mean (M) | Standard Deviation (std) | Least | Most |
|---|---|---|---|---|
| ESR | 21.42 | 2.314 | 18 | 24 |
| CRP | 21.50 | 2.355 | 17 | 24 |
| WBC | 7.92 | 1.311 | 6 | 10 |
| RBC | 3.83 | 1.642 | 2 | 6 |
| **CBT test. Post-test** | **Mean (M)** | **Standard Deviation (std)** | **Least** | **Most** |
| ESR | 22.42 | 3.232 | 18 | 27 |
| CRP | 22.50 | 3.261 | 18 | 28 |
| WBC | 8.50 | 1.624 | 6 | 11 |
| RBC | 3.50 | 1.679 | 2 | 6 |
| **Follow-up of the ACT** | **Mean (M)** | **Standard Deviation (std)** | **Least** | **Most** |
| ESR | 20.67 | 2.462 | 16 | 23 |
| CRP | 20.58 | 2.314 | 16 | 23 |
| WBC | 7.92 | 1.311 | 6 | 10 |
| RBC | 3.83 | 1.642 | 2 | 6 |
| **Follow-up of the CBT** | **Mean (M)** | **Standard Deviation (std)** | **Least** | **Most** |
| ESR | 21.25 | 2.734 | 18 | 26 |
| CRP | 21.75 | 2.896 | 17 | 27 |
| WBC | 8.50 | 1.624 | 6 | 11 |
| RBC | 3.50 | 1.679 | 2 | 6 |

It should be noted that CBC in this study has two dimensions, which include WBC and RBC. Considering the standard values for diagnostic factors and also by examining the results of diagnostic factors in Tables 4, it was shown that in two factors, namely normal ESR and CRP, the reported values in the post-test and follow-up stage are lower than the pre-test stage. However, the findings showed that the CBC-related elements, namely WBC and RBC, in the experimental groups did not show a significant difference compared to the pre- and post-test stages. But is there a difference between the ACT and CBT approaches? For this purpose, the second part of the findings is examined by the Bonferroni method. The results of examining the differences in the

performance of the CBT and ACT approaches on diagnostic factors (CBC-ESR-CRP) in patients with chronic pain shows the results of multivariate tests, especially Lamda Wilkes. The Lamda Wilkes index for the group is significant at the level of 0.05 ($\eta^2 = 0.634$, P=0.001, F=13.626, Wilks Lamda= 0.250). In other words, it can be claimed that there is a significant difference between the experimental and control groups in at least one of the variables related to "diagnostic factors"; On the other hand, the level of significance in the pre-test is not significant ($\eta^2 = 0.383$, P=0.066, F=1.494, Wilks Lamda= 0.617).

To examine the research hypotheses, the researcher used an analysis of covariance tests. The results of examining the differences in the performance of the CBT and ACT approaches on resilience and

diagnostic factors (CBC-ESR-CRP) in patients with chronic pain are presented in

Table 5:

**Table 5:** Analysis of covariance between subjects to examining the effectiveness

| Source of change | Total squares | Degrees of freedom | Mean squares | F | The significance level |
|---|---|---|---|---|---|
| Total resilience - pre-test | 27.610 | 1 | 27.610 | 3.427 | 0.024 |
| Groups | 1824.352 | 2 | 912.176 | 47.139 | 0.0001 |
| Error | 619.223 | 32 | 19.351 | | |
| total value | 127064 | 36 | | | |
| ESR - Pre-test | 206.917 | 1 | 206.917 | 277.818 | 0.0001 |
| Groups | 55.582 | 2 | 27.791 | 37.314 | 0.0001 |
| Error | 23.833 | 32 | 0.745 | | |
| total value | 19215.000 | 36 | | | |
| CRP - Pre-test | 247.113 | 1 | 247.113 | 477.704 | 0.0001 |
| Groups | 79.151 | 2 | 39.575 | 76.504 | 0.0001 |
| Error | 16.553 | 32 | 0.517 | | |
| total value | 19894.000 | 36 | | | |
| WBC - Pre-test | 6.730 | 1 | 6.730 | 3.395 | 0.045 |
| Groups | 6.072 | 2 | 3.036 | 0.532 | 0.123 |
| Error | 63.437 | 32 | 1.982 | | |
| total value | 2608 | 36 | | | |
| RBC - Pre-test | 84.363 | 1 | 84.363 | 37.902 | 0.0001 |
| Groups | 1.107 | 1 | 1.107 | 0.497 | 0.486 |
| Error | 19.160 | 2 | 9.580 | 1.304 | 0.222 |
| total value | 71.226 | 32 | 2.226 | | |

Based on the information in Table 5, the significance of the F test value (with a significance level equal to 0.005) in the group's section also shows that there is a significant difference between the experimental and control groups in the total resilience. Descriptive information also shows that the mean scores of the experimental group increased after the intervention, so it can be claimed that the training improved the resilience of all participants.

Based on the information in Table 5, the significance of the F-test value in the group's section also shows that a significant difference was observed between the subject and control groups in the ESR, CRP, WBC, RBC rate (after removing the pre-test or covariate effect). Descriptive information also shows that the scores mean of the subject group has decreased after the intervention, so it can be claimed that training has improved diagnostic factors in the ESR, CRP, WBC, RBC dimensions of participants, ie reduced it. Then, the differences between the ACT and CBT approaches were examined by the Bonferroni method. The findings obtained in this section confirm that there is no significant difference between the ACT and CBT approaches for diagnostic factors in the ESR, CRP, WBC, RBC dimensions.

**Discussion**

The findings of this study show that both ACT and CBT approaches have the necessary effect on resilience, and diagnostic factors (of course, on two of them, ESR-CRP). Based on this, the findings are further explained. The findings of this study on the effect of ACT approach on resilience are in line with the following studies (8,9,11,12). On the other hand, the findings of this study on the effect of CBT approach on resilience are consistent with the following studies (15-19).

The explanation of the findings is debatable in two areas. In the first place, we can point to the factors and reasons for the effectiveness of the ACT approach. In this regard, we can refer to the view of Sthanakiya (25) who states that what separates commitment and acceptance therapy from conventional cognitive-behavioral therapy is the acceptance of negative thoughts and feelings without trying to prevent control or suppress them. Commitment and acceptance therapy, instead of challenging thoughts and trying to control emotions, teaches one to embrace all thoughts and feelings.This change in attitudes toward private experiences seems very important for chronic conditions where there is evidence of painful private experiences.To place the therapy in the context of the study, it is useful to consider the hexagonal elements to a chronic health condition such as chronic pain. On the other hand, according to Wahyun et al. (26), from the perspective of commitment and acceptance therapy, it can be said that patients with chronic pain experience physical pain, thinking about pain and pain-related feelings. This model shows that people who are reluctant to experience this issue and do not accept it,

do their best to avoid the experience, such as taking large amounts of painkillers, avoiding activities, and trying to distract physical feelings and thoughts (that is, I can not live with this suffering - my life is over - nothing will change). This may lead to more suffering such as side effects of the drug (including stomach ulcers, kidney damage, liver damage, cognitive impairment), neglect of activities that make sense of their life (i.e. spending time with family, going to work and leisure) and intensify negative emotions and thoughts that lead to additional suffering (ie sadness, anger, and anxiety).

Secondly, we can point to the factors and reasons for the effectiveness of the CBT approach. Stallard (27) states that one of the main dimensions that distinguish different types of cognitive-behavioral therapy is their orientation to different degrees of cognition in the face of behavioral changes. The term cognitive-behavioral therapy encompasses all therapeutic approaches that emphasize the interaction between cognitive, behavioral, and physiological systems and target each of these systems to achieve therapeutic changes. Also, as Woliter (28) states, cognitive-behavioral therapy is rooted in the idea that thoughts (cognitions), emotions (emotions), and behaviors (reactions) are all interconnected as part of a single system. There is also a rule for studying cognitive-behavioral therapy based on the fact that people feel uncomfortable because of their perception of events instead of the events themselves. Therefore, in any given situation, a perceived event and people act according to their perception towards that perceived event.

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