

A Review of the Effect of Acceptance and Commitment Therapy (ACT) and Intensive Short-Term Dynamic Psychotherapy (ISTDP) on Executive Cognitive Functions in Lupus Patients

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Abstract

Lupus is an autoimmune disease in which the immune system of the body attacks its own cells. The findings of various studies have shown that the drugs administered in the treatment of lupus affect the functions of the brain which leads to memory loss and cognitive disorders in people with lupus disease. So, these patients have serious defects in the cognitive process of attention and executive functions. In confirmation of these achievements, it has been reported that lupus disease decreases executive function significantly in these patients by causing stressful events. So, since the patients with lupus have serious defects in the cognitive process of attention and executive functions, it is obligatory to fix their functional defects. In this review article, the effectiveness of the ACT as a default approach that neutralizes the effect of drugs and partly improves the executive cognitive functions of patients with lupus, combined with ISTDP has been investigated on attention and executive functioning in patients with lupus. ACT focuses on the present situation of the patient, while ISTDP focuses on the patient's past. The findings of this study provide valuable help in improving the cognitive impairments of people with lupus.

Keywords: Acceptance and Commitment Therapy (ACT) • Intensive Short-Term Dynamic Psychotherapy (ISTDP) • Cognitive functioning • Lupus

Introduction

Lupus, a psychosomatic disorder

Lupus is introduced as an autoimmune disease in which the immune system attacks the body's own cells by mistake, causing damage to the body's tissues [1]. Based on research performed by the Rheumatology Research Center of Tehran University of Medical Sciences, the prevalence rate of lupus in Iran is 40 in 100,000. The symptoms of lupus diseases in various individuals are different. In some people, only one system of the body such as the skin or joint is involved in the disease, and in some persons, the symptoms may appear in other parts of the body as well [2]. Unfortunately, conducted research in this regard has shown that the drugs used in the treatment of lupus have affected the functions of the brain and this causes memory loss and cognitive disorders in people with this disease. For instance, in a recent study, it was reported cognitive impairment was the most prevalent neurological manifestation in patients with lupus [3]. Many other similar studies also reported the same results and revealed that patients with lupus have serious defects in the process of attention and executive cognitive functions. A large part of these problems is due to the drugs used and the rest part is due to the nature of the disease. [4-6]. Harvard University health experts reported that lupus affects the Central Nervous System (CNS) including cognitive functioning and memory which confirms these results. According to this data and also based on the findings of various studies, attention is one of the psychological components that are deficient in lupus patients [7].

In another study, it was reported that lupus decreases the executive function of these patients significantly by creating stressful events for them [8]. Besides, several patients with lupus experienced some symptoms of involvement in their nervous system, including the central and peripheral nervous systems. The mentioned symptoms may cause a broad range

of problems including memory loss, headaches, confusion, and changes in visual and auditory attention, depression, and mental disorders which may be resulted from drug administration or other situations. So, another critical functional variable that should be examined in patients with lupus is executive function. Executive function is a superior cognitive and metacognitive component that is consisted of a series of superior abilities, inhibition, self-initiation, strategic planning, cognitive flexibility, and impulse control [9]. Any defects in the executive function lead to many problems such as problems of organization and management, remembering rules, doing complex mathematical tasks, and problems in remembering What You Read [10]. According to the aforementioned, it is crucial to fix the functional defects of patients with lupus.

Cognitive functions

Attention is a cognitive process in which the mind concentrates on particular stimuli from the environment while other environmental stimuli are ignored [11]. Attention is the first step in information processing and also a set of mechanisms that allow the brain to make the right choice [12]. Attention forms the central core of many aspects of cognition, which affects perception, memory, language, and problem-solving. So, attention is the basis of the human thinking process and the mandatory principle in fruitful and effective interaction with the environment which is a very crucial and required cognitive function in humans [10].

Executive function

Executive function is a superior cognitive and metacognitive component that consists of a series of superior abilities, inhibition, self-initiation, strategic planning, cognitive flexibility, and impulse control [9]. Actually, the functions such as organization, decision-making, working memory, preserving and transformation of motion control, emotions and perception of time, predicting the future, reconstruction, inner speech, and problem

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solving are among the most crucial neurological executive functions. These functions help people in their life and doing their learning tasks as well as their intellectual actions [13]. Neurocognitive executive functions are crucial structures that are related to psychological processes responsible for vigilance control and thinking in action. These functions regulate the outputs of person's behavior and usually include inhibition and control of stimulus, working memory, sustained attention, planning and organization [14].

Literature Review

Cognitive Behavioral Therapy (CBT)

CBT is one of the most valuable achievements of psychology over the last half century. This treatment technique has been so useful that the term "cognitive revolution" has been used to describe it. This option is the most successful method in the treatment of anxiety and depression disorders. It is also very beneficial in treating and reducing the symptoms of acute mental problems such as schizophrenia and bipolar disorder. CBT is a type of psychotherapy that mainly focuses on the influence of a person's beliefs, thoughts and attitudes on his feelings and behaviors. CBT is a short-term psychotherapy technique that is used by psychotherapists to train people to change their feelings and behaviors through changing their thought patterns and beliefs. The theories of cognitive therapy, Rational Emotive Behavior Therapy (REBT), Mindfulness-Based Cognitive Therapy (MBCT), Acceptance and Commitment Therapy (ACT), MetaCognitive Therapy (MCT), Dialectical Behavior Therapy (DBT), multimodal therapy and many other theories are considered a subset of cognitive behavioral therapy, all of which have a very strong clinical experience [15].

Acceptance and Commitment Therapy (ACT)

One of the major approaches in psychology to investigate the psychological components of lupus patients is ACT. According to some studies [11,16] it has been specified that the majority of patients with lupus avoid facing their disease due to insufficient knowledge of the nature of the disease and also failure to accept the disease. However, they seek definitive treatment solution to treat and completely eliminate their disease. But definitely, trying to fully eliminate and cure the diseases of these people not only does not treat them, but it also destroys their motivation and also

negatively affects their quality of life. That is the time when the concept of acceptance and commitment become crucial in ACT approach. ACT has six core processes that lead to psychological resilience of people. These processes include acceptance versus avoidance, cognitive fusion versus defusion, self-as-context versus self-conceptualization, being present minded versus ambiguity of values and being connected with them, and commitment versus passivity [17]. The hexagon of ACT therapy is shown in Figure 1.

ACT is based on the hypothesis that emotional trauma is associated with trying to control or avoid negative thoughts and emotions. ACT emphasizes changing the relationship of the patient with his inner experiences and avoidances [18]. In ACT therapy clinical problems are conceptualized in a particular format that three basic problems form the basis of psychological problems which include awareness problems, internal experiences avoidance, and avoiding important and valuable activities in the person's life [19]. Two of the main objectives of ACT therapy are acceptance of unwanted and uncontrollable thoughts and emotions and commitment and efforts to live a valuable life according with personal values. This treatment includes the acceptance and change at the same time. Anyway, we mean the change in the functioning of individuals, not in the problem or the frequency of their problematic behavior [20].

A performed field study [21] provided an explanation on the productiveness of cognitive functions, attention management, and executive performance in both children and adults. The findings of another study [22] revealed that ACT therapy improves cognitive-emotional functions. The findings of a similar study [23] revealed that ACT therapy has a significant effect on cognition. Besides, previous studies have also confirmed the effect of ACT therapy on attention [24]. Another study [25] showed that ACT therapy is very functional in improving health and executive function. Many other studies have shown that ACT therapy can affect executive function and attention significantly [26-30]. Therefore, it is hoped that ACT therapy can affect attention and executive function of patients with lupus significantly in a positive way as well as causing cognitive rehabilitation of these patients. Besides, any improvement in executive function and attention will lead to the improvement of their memory and prevents these patients from getting Alzheimer's.

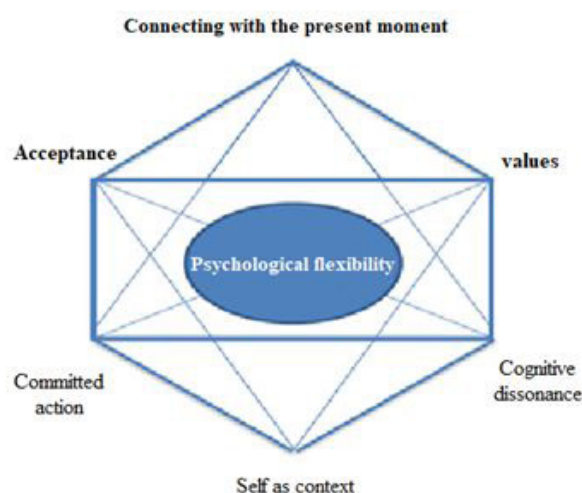


Figure 1. Hexagonal of ACT therapy .

Discussion

Intensive Short-Term Dynamic Psychotherapy (ISTDP)

One other psychological approach that is efficient in examining psychological and functional variables such as attention and executive function in lupus patient is ISTDP. The goal of psychodynamic psychotherapy is to help the patient to achieve a full experience of repressed emotions and the fantasies and memories that are repressed by these emotions [4]. The psychodynamic perspective is based on the idea that unconscious mind and feelings are crucial causes of behavior. The psychodynamic approach is partly based on the assumption that observable behavior (overt behaviors) is a function of internal mental factors (hidden events). Internal events and and physical environmental stimuli proposed by psychodynamic theorists are different. However, they all agree that personality is formed by a combination of internal and external events. Besides, based on their view, internal events play a more significant role in this context [31]. The theoretical approach of ISTDP is planned to work on the operation of conflict triangle in the three corners of the triangle of person [32]. In this approach, the patient finds more satisfactory ways to solve problems by resolving his unconscious conflicts [33]. Empirical evidence not only supports the productiveness of this treatment approach in solving interpersonal conflict, but also reveals that people the process of recovering and the treatment of patients will continue after the completion of this approach [4].

ISTDP approach with a focus on clarifying defenses and challenges, focusing on experiencing unconscious feelings and emotions increases patients' awareness [34]. In ISTDP approach, recounting experiences and memories also has a significant role in this regard. So, if the mentioned approach applied for lupus patients, it should be acknowledged that reviewing the experiences and facts of life is the core axis of learning through experience that leads to a significant development in clinical skills. Psychodynamics has a close relation with personality assessment, characteristics of adult thinking and the performance of people in existential and ambiguous tasks of life [35]. In general, psychodynamics is related to processes such as sensing, perception, mental imagery, memory, problem solving, thinking and all other mental activities [36]. Neisser believes that sensory memory (which lasts about 25 seconds and stores images that are created in the form of sensory impressions) is initially processed in various peripheral memories. Besides, this memory is short-term verbal (here, the data about vents, processing and storage), and then continues to long-term retention (only after careful and sequential processing) [36].

In 2015, some articles were published in the Journal of Psychodynamic Psychiatry by Kathryn Hickey describing a method of Dynamic psychotherapy of ISTDP. This method, which is called Montreal regular training courses, was prepared under the supervision of Dr. Duanlud, in such a way that a series of therapists were engaged in treatment each year under the supervision of Dr. Duanlud. The participants played the role of patients, therapists, and dynamic psychotherapy trainees were participated too, while their work was supervised by Dr. Dovanlo. One of their articles was the one that clinical examples implemented in that program were discussed and focused on resistance and the new term of the Transmission Coefficient Resistance (TCR) [37].

Comparison of ACT and ISTDP

ACT is mainly focused on the present while ISTDP focuses on the person's past. In a recent study, ISTDP therapy and its related models were superior in follow-up compared to the ACT therapy [38]. The reason for choosing and comparing ISTDP and ACT on people's attention and executive performance is that ISTDP challenges the defense as well as moderating the feelings and emotions and unpleasant experiences of the person's past. Moreover, using the concept of consciousness makes the person able to use his past experiences to cope and take advantage of his current sufferings and problems. This decrease in sufferings improves the cognitive process of people, which can be called attention and executive function. This psychological process helps us to change our reacts to the inevitable hardships of life. Maybe it is the connectipoint of on two aforementioned treatments. It means that the cognitive flexibility that we seek to achieve in the treatment based on ACT approach with the help of the six important processes in this method, which leads to more effective coping with suffering and improving attention and executive performance of people. Although the effect of ISTDP on variables such as interpersonal conflicts, emotional expression, self-efficacy, depression, anxiety, Psychogenic nonepilepticseizures and other variables has been examined, no specialized and comprehensive research investigated the effect of ISTDP on cognitive and functional variables related to memory, such as attention, cognitive and executive function, and other variables related to cognitive processing of sick people and even healthy people.

An overview of the related literature

Palagini et al. [8] showed that lupus causes a noticeable decrease in the executive function of these patients by causing stressful events for them. Besides, some lupus patients represent signs of involvement of the nervous system, including the central and peripheral nerves. The mentioned symptoms cover a broad range of problems including memory loss, headache, and confusion, changes in auditory and visual attention, depression and mental disorders. These problems can be due to the use of drugs or other conditions. The results of multiple researches have shown that the "Third wave" cognitive behavioral therapies have great effects on improving the performance of attention, memory, as well as an improvement in the performance and cognitive rehabilitation of patients with chronic diseases.

The results of many researches [39,40,4] have confirmed the effect of ISTDP on variables such as interpersonal conflicts, emotional expression, self-efficacy, depression, anxiety, psychogenic nonepileptic seizures and other variables, and all these variables can result from attention deficit and weak executive function [41]. Based on the review of related conducted research in this regard, there is no specialized and comprehensive research that investigated the effect of ISTDP on cognitive and functional variables such as memory, attention, cognitive and executive function and other variables related to the cognitive processing of sick or the healthy individuals. Several recent studies are presented in Table 1 regarding the investigation and comparison of the effectiveness of ACT and ISTDP on attention and executive function.

Table 1. An overview of the effectiveness of ACT and ISTDP.

Aim of the study	Results	Reference
Evaluation of the effects of ACT approach	ACT improved the rate of patient satisfaction. The effects of treatment were maintained at a 3-month follow-up. ACT should be considered as an effective psychosocial intervention.	[42]
Investigating the productivity of ACT therapy on anxiety, depression, quality of life and psychological flexibility in people	The productivity of ACT in improving and maintaining mental health outcomes in different populations, as well as the reliable and clinical effectiveness of ACT therapy	[43]
The productivity of treatment based on ACT approach for patients with physical mental illness in routine hospital care	An interdisciplinary ACT-based treatment with multiprofessional specification is a valuable approach for patients with mental and physical difficulties in real hospital settings, which yields effects equivalent to CBT interventions.	[44]

Evaluating the productivity of an ACT group intervention on the psychological aspects of high school students	ACT group intervention is a valuable method of promoting psychological wellbeing of adolescents as well as promoting their school participation.	[45]
Investigating the productivity of ISTDP approach, Body Awareness Training (BAT) and combining these two on executive functions	Combined intervention approach has the most impact and body awareness therapy has the least impact on the problem solving ability of individuals. Although the productivity of the ISTDP was more than the mindfulness-based interventions, but the difference between these two interventions was not significant. However, the difference between mindfulness and combined intervention was significant.	[46]
Determining the productivity of ISTDP on improving the mother-child conflict relationship	ISTDP improves the quality of mother-child conflict relationship significantly. Besides, the productivity of ISTDP on both genders was significant, and no significant difference was observed between girls and boys in treatment outcomes.	[47]
Investigating the efficacy of ISTDP approach on the improvement of nonepileptic seizures	ISTDP is an ISTDP treatment method for reduction of psychogenic nonepileptic seizures, which was used in clinical settings by skilled therapists.	[48]

Conclusion

Acceptance and Commitment Therapy (ACT) is a mindfulness-based therapy (BCT) that focuses on empowering people to accept what is out of their control and take valuable activities that enrich their lives. This treatment method has been developed as an alternative to traditional methods of therapy. Previous studies have mentioned ACT as an appropriate method of treatment for mood disorders, Post-Traumatic Stress Disorder (PTSD), panic disorder, Generalized Anxiety Disorder (GAD), Drug Resistant Epilepsy (DRE), drug abuse, and chronic pain. On the other hand, recent analyzes on ACT have showed promising findings and a logical reasoning to use this treatment in patients with Obsessive-Compulsive Disorder (OCD).

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