

Effect of metacognitive strategies on the treatment of behavioral disorders in adolescents

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ABSTRACT

The aim of this study was to evaluate the effect of metacognitive strategies on the treatment of behavioral disorders in adolescents. Anxiety and aggression disorders are common behavior among young people who study the effects of metacognitive strategies we examined the two types of disorder. This is descriptive and analytic study. The study population are young people who have referred to psychotherapy and counseling centers in Tehran. The sample size consisted of 220 patients who were randomly selected. T-sample method was used for calculating variables. Also, questionnaires and interviews were used to collect data. The questionnaire consisted of 45 questions, and each of the variables were studied. SPSS software was used to analyze the data. The level of significance for both variables equals 0.01 which is less than 0.05. As a result, both hypotheses were confirmed at 95%. In this study, it was found that metacognitive strategies have a significant and positive effect on the treatment of behavioral disorders, especially anxiety and aggression in adolescents.

KEY WORDS: METACOGNITIVE STRATEGIES, BEHAVIORAL DISORDERS, ANXIETY, AGGRESSION, TEENAGERS

INTRODUCTION

Teenager is the period from childhood to adulthood and emotions and feelings are changed. In this period, emotional states get stronger and sensitive, so as irritability, anxiety, depression and aggression are observed more in young people (Golshani, 2015). Teens are living in a period of transformation that rapid changes in the field of biological, behavioral, cognitive and emotional

characteristics are obvious in this period. The unwanted developmental changes impose pressure on teenagers. Part of this pressure is due to physical changes and some other changes caused by social-cultural factors (Beshkar, 2009). One of the complex issues that is concerned by many researchers, psychologists and experts is the contributing factors in behavioral problems in children and adolescents. These problems have long been common in human societies and are widespread at the present time.

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Cognitive psychology has begun its rapid progress since the second half of the twentieth century; and it was in peak condition when the opponents like Watson had rejected it. But meta-cognitive psychology is the idea of founding a new field that dates back to 1970 (Salehi, 2001).

Metacognition is a multifaceted concept. This concept includes knowledge, processes, and strategies that recognizes, monitors, and controls the cognition (Wells, 2009 translated by Mohammad Khani, 2013). Metacognition refers to the structures, knowledge, and the psychological processes that control, modify and interpret thoughts and knowledge. Metacognition is defined as the knowledge that how a person learns, knowing how to use available data to achieve a goal, ability to judge cognitive processes in a particular task, knowledge of which strategies should be used, and evaluating the progress during and after the performance (Salarifar & Pouretamad, 2011). Metacognitive beliefs refer to the part of metacognitive knowledge that connect the person's beliefs about cognition, cognitive, and emotional experiences (Wells, 2009 translated by Mohammad Khani, 2013).

STATEMENT OF PROBLEM

Adolescence is a period of physical, cognitive, social, and emotional changes; it is a dynamic and excitement period for individuals. The ability to think, the onset of puberty and changes in relationships with family, friends, school and community, peers, family roles, responsibilities, efforts to acquire new emotional and social roles, management responsibilities without excessive dependence on other people and new direction for the future are formed in this period (Shaffer, 2014). The adolescents take family a special way to express their conflicts that caused by their cognitive and often they are reluctant to change their conflict styles over time (Canary & Lakey, 2010). In other words, it seems that the conflict style is dependent on in an environment where conflict occurs in it. Teenager in the family environment during a particular way to express the conflict that Interactions between family members and cognitive emotion regulation strategies that are used can affect the practices of conflict resolution (Jalali and Rafei, 2011). In recent years, tendency towards the use of cognitive and metacognitive therapy on children and adolescents has been rising. Results of researches show that this method is effective in the treatment of anxiety and aggression disorders.

REVIEW OF LITERATURE

MCT has been proposed in recent years, and it is concerned from different aspects, such as having a regular structure, a limited number of sessions, emphasis on

process rather than content knowledge, and developing specific techniques such as attention training. MCT by changing maladaptive thinking styles controls the flexibility in cognitive control. MCT has been welcomed by specific models for each disorder and experimental evaluation so that despite the short time after the emergence of this approach, many researches have been conducted on evaluation of basic theory and techniques of metacognitive therapy (Wells, 2008).

This method has been the most applied treatment of social anxiety disorder (Clark & Wells, 1995; Wells & Papageorgiou, 2001), post-traumatic stress (Wells & Sembi, 2004), generalized anxiety disorders (Wells, 2008), obsessive-compulsive disorder (Fisher and Wells, 2008).Lobban et al., (2002) reported that metacognitive beliefs in patients with anxiety disorders, particularly generalized anxiety disorder, panic disorder, and obsessive-compulsive disorder are effective.

Metacognition is the one's information about his cognitive system. According to Thomson et al (2011), metacognition judgment plays an important role in making people feel good and their analytical thinking. Cognitive strategies refer to any behavior or action that the learners use, and these strategies aim to help learning, organizing and storing knowledge and skills, as well as ease of operation in future (Weinstein & Hume, 1988).Metacognitive strategies are known as ways to guide and monitor. Metacognition is also a variable that can be influenced by visual capabilities. Metacognition is high level of cognitive function that can be defined as any kind of consciousness or cognitive process to inform and or control every aspect of cognition (Vargas et al., 2012).

In fact, metacognitive knowledge refers to beliefs and knowledge stored in memory of person, duties, and selecting strategies (Rosenzweig et al., 2011). Through knowledge and metacognitive strategies, metacognition works by changing beliefs and interpretation of specific symptoms such as intrusive thoughts, emotional processing and response to injury. The main idea of this approach is that in psychological disorder, beliefs consist of meta-cognitive components that directs the thinking and coping style; these beliefs influenced by the thinking and coping style (Salarifar et al., 2011).

Social psychologists define aggressive act as the conscious behavior that is aimed to cause physical or mental pain (Aronson, 2007). In 1993, according to Berkowitz, aggression is relative constant desire to express with aggression by one's behavior in various situations (Mohseni Tabrizi & Rahmati, 2002). Aggression may arise in many different forms; its verbal and physical represents the behavioral aspect, anger represents the emotional aspect, and hostility represents the cognitive aspects of aggression (Naghdi et al., 2010). Several factors contribute to the incidence of aggression

such as environmental factors like social observations, media, and video games (Akbari, 2009). Family factors such as: how to deal with the needs of children, inappropriate patterns, and parents and teachers' encourage (Mohammad Khani, 2006). Biological factors, such as: inheritance factor (Mirza Beigi, 2011) and physiological factors (Richard, Haljyn, 2009). Anger and aggression are the most common problems in children and adolescents, and these problems are the most important reasons that people refer to counseling and psychotherapy centers (Bornmann et al., 2007; Goodwin et al., 2003). In most studies conducted on aggression boys than girls are more aggressive than girls (Spencer, 2000).

The anxiety disorder is considered as the introspective disorders (Shokouhi Yekta, 2005). This has negative feelings with a sense of concern about the danger. Anxiety symptoms are the same in children and adults but can represent differently at different ages (Butcher et al., 2009). Anxiety can be defined as a set of behavioral responses, physiological and cognitive phenomena with concerns about possible negative results or failure in a test or evaluation conditions (Sadock & Sadock, 2003; Naderi, 2010)

There are several definitions of anxiety, one of the definitions is "fear in real situations or fiction". Although anxiety and fear are similar, but they have obvious differences. Fear refers to mishaps happening or will happen soon, while anxiety refers to the unjustified fear (Atwell, 2006 translated Rahmati, 2009). The main features of anxiety is worry that is the concern about the uncertain consequences. It is harmful because it disrupts the human ability to take action to solve the problem (Huberty, 2010).

OBJECTIVES

Study of the metacognitive strategies effect on the treatment of behavioral disorders in adolescents1. The effect of metacognitive strategies on the treatment of anxiety disorders in adolescents2. The effect of metacognitive strategies on the treatment of aggression in adolescents

Hypotheses
The first hypothesis: metacognitive strategies have a significant and positive effect on the treatment of generalized anxiety disorder in adolescents. The second hypothesis: metacognitive strategies have a significant and positive effect on the treatment of aggression in adolescents.

METHODOLOGY

This is a descriptive-analytic method. The study population are young people who have referred to psychotherapy and counseling centers in Tehran. The sample size consisted of 220 patients who were randomly

selected. T-sample method was used for calculating variables. Also, questionnaires and interviews were used to collect data. The questionnaire consisted of 45 questions, and each of the variables were studied. SPSS software was used to analyze the data.

RELIABILITY AND VALIDITY

In this study, Cronbach test was used to test the reliability of the questionnaire. In order to calculate Cronbach's alpha coefficient, the variance of each score of the questionnaire and the total variance of the questionnaire should be calculated. Then, the alpha value is calculated by the following formula.

$$Y_A = \frac{j}{(j-1) \left(\frac{1 - \sum s^2}{S^2} \right)}$$

Then, the data of questionnaires were calculated by SPSS software, Cronbach's alpha equaled 0.735 for the questionnaire (after distribution of a sample $n = 20$). Since alpha is larger than 0.70, the reliability of the questionnaire is confirmed. To assess the validity, professors and experts' views were asked. According to their opinions, questionnaire is valid.

DATA ANALYSIS METHOD

To analyze the data, one-sample t was used for the impact of each variable.

INFERENCE STATISTICS

The first hypothesis: metacognitive strategies have a significant and positive effect on the treatment of generalized anxiety disorder in adolescents.

One-sample t-test

The test has been designed to compare the mean of a variable with the constant value. The hypothesis is as follows:

$$\begin{cases} H_0: \mu \leq 3 \\ H_1: \mu > 3 \end{cases}$$

| Table 1. Mean comparison test | | | | | |
|-------------------------------|-------------|------|-------------|-----------------|------------------|
| Confidence interval 95% | | Sig. | t statistic | Mean difference | Variable |
| Upper bound | Lower bound | | | | |
| .667 | .503 | .001 | 14.05 | .584 | Anxiety disorder |

As the significant level of this test is 0.001 which is less than 0.05, the null hypothesis is rejected at the level of 0.05. The average of the variable does not equal 3 and it is significantly different. The mean difference is 0.584. As the confidence level is at 95%, it can be concluded that the mean is greater than 3 for this variable. As a result, metacognitive strategies have a significant and positive effect on the treatment of anxiety disorder. The second hypothesis: metacognitive strategies have a significant and positive effect on the treatment of aggression in adolescents.

One-sample t-test

The test has been designed to compare the mean of a variable with the constant value. The hypothesis is as follows:

$$\begin{cases} H_0: \mu \leq 3 \\ H_1: \mu > 3 \end{cases}$$

| Confidence interval 95% | | Sig. | t statistic | Mean difference | Variable |
|-------------------------|-------------|------|-------------|-----------------|---------------------|
| Upper bound | Lower bound | | | | |
| 2.73 | 1.48 | .001 | 6.73 | 2,11 | Aggression disorder |

As the significant level of this test is 0.001 which is less than 0.05, the null hypothesis is rejected at the level of 0.05. The average of the variable does not equal 3 and it is significantly different. The mean difference is 2.11. As the confidence level is at 95%, it can be concluded that the mean is greater than 3 for this variable. As a result, metacognitive strategies have a significant and positive effect on the treatment of aggression disorder.

DISCUSSION AND CONCLUSION

In the first hypothesis with a confidence level of 95%, it was found that the cognitive strategies have a significant and positive effect on the treatment of anxiety disorders. The result of this study is consistent with the previous studies. Wells and Carter (2001) studied the role of metacognitive beliefs in development and maintenance of anxiety disorder symptoms. Spada et al (2008) concluded that the metacognitive beliefs have a significant effect on reducing the anxiety disorder.

In the second hypothesis at 95% indicated that metacognitive strategies have a significant and positive effect on the treatment of aggression in adolescents. Fewer studies on the relationship between metacognition

and aggression show that the defective metacognitive strategies are significantly associated with aggression and cognitive trust is a strong predictor for aggression (Sarvghad and Daneshpour, 2010). Other studies suggest that improving metacognitive can reduce anger and aggression (Steven, 1992).

Cognitive - behavioral therapy is a psychological term that is used to describe therapeutic interventions that alter cognitive processes with the aim of reducing psychological distress and maladaptive behavior. Cognitive - behavioral therapy is based on the fundamental premise that feeling and behavior are largely the products of cognition, so the cognitive and behavioral intervention can make a change in thinking. Thus, the main elements of cognitive behavioral therapy cognitive and behavioral theories involve (Stallard, 2005 translated by Alizadeh, Rouhi and Goudarzi, 2010). Cognitive psychologists deal with gathering the information of the world, way of representing the information and turning it into knowledge, storing it and use it for directing behavior. Cognitive psychology includes a range of cognitive processes such as feeling, perception, recognition of schemes, attention, learning, memory, concept formation, meditation, guided imagery, remembering, language, emotion, and behavior that help to understand the nature of the thinking mind (Rouhi, 2006).

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