The Effectiveness of Cognitive, Meta-cognitive, and Behavioral Model on Reducing Anxious Thoughts in Patients with Social Anxiety Disorder

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Abstract

Introduction: This study was conducted in order to examine the effectiveness of cognitive, meta-cognitive, and behavioral model on the reduction of anxious thoughts in patients with social anxiety disorder.
Methods: The study method was semi-experimental with a pre-posttest design and a control group. The statistical population contained all the patients with social anxiety disorder referring to public and private centers in Kermanshah in 2016 which were selected using available sampling method. A total of 30 patients who were chosen through structured interviews (SCID-I), and Well's Questionnaire of Anxious Thoughts (1994), were randomly divided into two experimental and control groups. Twelve cognitive, meta-cognitive, and behavioral therapy sessions due to the developed model and on the basis of relevant theoretical insights was done twice a week for the experimental group while the control group received no interventions. After the treatment, both groups were evaluated with the test. For data analysis, one-way covariance (ANCOVA) was used.
Results: The findings showed that cognitive, meta-cognitive, and behavioral developed model has been effective on the reduction of anxious thoughts among patients with social anxiety disorder in the experimental group ($P<0.001$).
Conclusion: Considering the effectiveness of the model, it seems that therapists and counselors can use this developed model to reduce anxious thoughts among patients with social anxiety disorder.

Keywords: Social Anxiety Disorder, Cognitive, Meta-cognitive, Behavior, Anxious Thoughts

Introduction

Social anxiety disorder is a lingeringly anxiety disorder which is described by a powerful fear of functional and social situations, and in which people feel that they are assessed their actions and behaviors, and as a result, the avoidance of these situations will happen [1]. Anxiety disorders are the most common mental disorders both in initial care and in clinical medicine. Studies have firmly shown that anxiety disorders have caused many problems and complications. They actually assign high levels of health care on themselves and eventually lead to a decrease in the quality of life and activity in the person [2]. Social anxiety is the third psychiatric disorder that has a prevalence of 13% [3]. It is clear that if social anxiety is left without treatment, it can significantly interrupt the professional, educational, and social capacity of people in their life [4].

One of the mental factors, that is affected in social anxiety, and has attracted most attention in current studies, is worry (anxious thoughts) [5]. Mellings and Alden (2000), in examining the cognitive elements which percept social anxiety, concluded that concentrating on oneself and anxious thoughts is the most important predictors of social anxiety's disorder [6]. This research showed that correlation exists between some of the

factors of meta-cognition and mental disorders [7].Ellis & Hudson (2010) showed that worry and anxiety are the most basic factors in anxiety disorders such as social anxiety and general anxiety disorder, and correlate with negative and positive meta-cognitive thoughts [8]. So, worry (which exists in anxiety) includes catastrophizing and its mental control is difficult. Worry process is considered as a coping mechanisms but the same process can be the center of worry and anxiety [9].

Some people are constantly concerned about their health and regularly inspect their body. They constantly monitor their vital signs and have extremist worry about their health. It has been see that if these concerns continue for more than six months, it can eventually lead to health concerns [10]. The results of various studies showed that people who have anxiety disorders encounter more strong anxious beliefs compared to healthy people [11, 12]. Holeva et al. (2001) have verified the correlation between anxiety and dangerous stress [13]. The finding of past studies showed that the use of anxiety to control beliefs, correlates to the stress signs of students [14]. Different treatments such as cognitive therapy [15, 16], meta-cognitive therapy [17, 18], LEARN multifaceted intervention [19], and Attention Training Technique [20] are effective in decreasing anxiety, anxious thoughts and worrying beliefs. But the previous methods don't have a long impact on the treatment of social anxiety, and it seeded to use other methods in order to have a longer effect. So, this treatment has been formed in order to resolve the defects of other methods. This method has practical application in the treatment of anxiety disorders for specialists and clinical therapists until simple concepts create longer effects for patients.

Due to a lack of comprehensive study about combining cognitive, meta-cognitive and behavioral aspects in social anxiety disorder therapy, it is very important to have a therapy model which treats both surface and deep structures of anxiety. Therefore, considering the high prevalence of these disorders and their consequences for the individual, family and society [21, 22] and their effects on reducing life quality [23, 24], it is very important to examine the effects of other therapies on social anxiety. Thus a model was first developed based on cognitive (fear of negative evaluation, underlying assumptions, and efficacy), meta-cognitive (mind control, negative meta-beliefs, and cognitive ability) and behavioral (safety behavior and avoidance behavior) aspects and after processing the model and considering the theoretical basis, the effectiveness of the developed cognitive, meta-cognitive, behavioral model on anxious thoughts of patients with social anxiety disorder in Kermanshah (Iran) has been examined.

Methods

This research is a semi-experimental study with a pretest-posttest design and a control group. Information was collected to examine the effectiveness of cognitive, meta-cognitive, and behavioral model on the reduction of anxious thoughts among the patients with social anxiety disorder in Kermanshah (Iran).The statistical population of this research included all the patients with social anxiety disorder who referred to private and public counseling centers in the city of Kermanshah in 2016. In the present study, a clinical psychologist first used a structural interview (SCID-I) and anxiety thoughts scale to find people with social anxiety symptoms and then selected 30 individuals by available sampling method and randomly divided them into two experiment and control groups.

The inclusion criteria for the study included; taking two standard deviations higher than anxious anxiety, the age range of 20-40 years and not taking psychiatric medication.

The exclusion criteria for the study included; unwillingness to cooperate in the research and existence of other physical and mental diseases.

The following ethical aspects were considered in this study:

- The participants in this research had caution to cooperate and their agreement was orally attracted,
- The information of the participants was preserved,
- Their information will be kept confidential and will be reported in groups.

The following instruments were used to gather information:

-Structured Clinical Interview for axis I Disorders (SCID-I): SCID-I is applicable for axis I disorders and has two versions: Clinical version (SCID-CV) and research version. In this study, the clinical version was used. This version covers the most common disorders in clinics. This version is shorter than the research version. It starts with an open interview about the current disease and the previous periods of diseases. In this version, each of the materials will be marked in three ways: insufficient information about symptoms (?), no symptoms (-), and observing symptoms (+). It covers 6 disorder zones (mood periods, psychopathic symptoms, psychopathic disorders, mood disorders, drug use and anxiety disorder) [25]. Sharifi et al. (1999) reached a diagnosis agreement of moderate to good (Kappa coefficient more than 60.0). They have also estimated the overall kappa of the current diagnosis to be 52.0 and the overall kappa of lifetime diagnosis to be 55.0 [26]. The agreement kappa index was estimated to be48.0 to 98.8 for the categorical diagnosis and 90.0 to 98.0 for the interclass diagnosis [27].

-Scale of Well's Anxious Thoughts (1994): This is a 21-item tool, 7 item measure meta-worry, 8 items measure social anxiety, and 6 items measure health anxiety. In each subtest, which is graded based on the Likert scale (four –degree), the internal consistency of meta-worry was reported 81.0, social anxiety was reported 85.0, and the health anxiousness was reported 74.0. The reliability of this scale was calculated to be 92.0 with the test-retest method and 89.0 was gained with the two-half method [28].

After selecting and randomly replacing the patients who had social anxiety disorder in two groups of experimental and controls, the patients in the experimental group received education based on the theories of Neenan and Dryden [29], Leahy [30], Beck [31], wells [32], and Bandura [33]. This educational program was accomplished by the

researcher in two months (90-minute sessions twice a week). Since the selected patients were literate, the questionnaire was filled by the patients themselves. During the implementation of the intervention program for the experimental group, the control group did not receive any interventions. After the sessions, both groups were evaluated by well's questionnaire of anxious thoughts (1994). The data from the questionnaire was analyzed by univarate analysis of covariance (ANCOVA). Data analysis was performed by SPSS software (Version 19).

Table1. Cognitive, meta-cognitive, and behavioral model in the reduction of anxious thoughts

Sessions	Session content
First session	Introduction and communication among group members, familiarity within the framework and the rules of participate in sessions
Second session	Explanation of disorder in the context of biological-psycho-social disorders and the definition of signs and symptoms considered as a part of well-known marks
Third session	Recognition of musts and challenge with must-thinking challenges, behavioral experiments, reward for individual contracts
Forth session	Recognition of usefulness of assumptions and rules, listing its costs and benefits, imagery to modify assumptions and rules
Fifth session	Techniques of differentiation of thoughts and reality and techniques of border between progress-oriented and perfectionism
Sixth session	Educating efficacy and self-tools, identify negative self-talk and cognitive disorders
Seventh session	Relaxation training and desensitization
Eighth session	Training coping skills, self-adjusting, thought stopping, and role playing
Ninth session	Introduction of techniques to delay mental rumination, reform one's positive and negative meta-beliefs, attention training technique
Tenth session	Evaluation and identification of meta-cognitive control strategies and replacing useful meta-cognitive control strategies, techniques of getting away from mindfulness dealing with strategies and meta-cognitive dysfunctional
Eleventh session	Integration of putting cognitive, meta-cognitive, and behavioral techniques in practice
Twelfth session	To sum up and review homework

Results

In relation to the demographic profiles of the patients, all of them were in the age range of 20-40 years old. The average age of patients was 29.38±5, and all of them had university education. Also, both experimental and control groups were in accordance with the demographic characteristics.

The findings of descriptive indicators related to anxious thoughts in both experimental and control groups are reported in Table2.

In the first covariance analysis, the assumption of normality and homogeneity of covariance were assessed. For survey normality, skewness and kurtosis were used and since the score of anxious thoughts was (0.456, -0.394) in pretest and (0.024, 1.65) in posttest and in normal range (-2, +2), so it has normal distribution. The Leven's test was used for equal variances' assumptions. Due to the absence of meaningful levels (0.53, 0.79), it can be concluded that the homogeneity of variances can be established about anxious thoughts variable (Table3).

After adjusting the pretest scores, the effectiveness of cognitive, meta-cognitive, and behavioral model was evaluated on the reduction of anxious thoughts in patients with social anxiety disorders. The obtained value of F=219.434 in the meaningful level of P<0.001, demonstrated the effectiveness of cognitive, meta-cognitive and behavioral model on the reduction of anxious thoughts. Considering the evaluated amount of Eta and its meaningfulness, we can say that 89 percent of variance anxious thoughts is estimated by independent variable of educating cognitive, meta-cognitive, and behavioral developed model (Table 4).

Table2. Descriptive indicators for anxious thoughts

	Anxious Thoughts			
groups	Experimental		**Control**	
Phase	Mean	Standard deviation	Mean	**Standard deviation**
Pre-test	63.31	3.83	65.69	**4.51**
Post-test	32.39	4.73	60.60	**5.16**

Table 3. The Leven's test for anxious thoughts

Dependent variable	F	DF1	Df2	Sig
Pre-test	0.4	1	28	**0.53**
Post-test	0.06	1	28	**0.79**

Table 4. Univariate analysis of variance for anxious thoughts

Statistical Descriptive	Mean Square	DF	Sum of Square	F	Sig	Eta Square
Pre-test	17.416	1	17.416	0.702	0.4	**0.02**
Group	5442.72	1	5442.72	219.434	0.001	**0.89**
Error	669.69	27	24.803			

Discussion

The aim of this study was to examine the effectiveness of cognitive, meta-cognitive, behavioral model in reducing the anxious thoughts of patients who suffered from social anxiety in the city of Kermanshah. The results showed that teaching Cognitive-meta cognitive-behavioral intervention has been significantly effective in reducing anxious thoughts. Since no research has been conducted with the similar topic, therefore in explaining the hypotheses, we have tried to refer to the closest studies conducted with similar topics. Among identical studies we can refer to studies by Mahjuob and Teymouri [15], Ghahvehchi et al. [16], Bahadori et al. [17] and Salmani et al. [18].

Cognitive-meta cognitive-behavioral intervention can help patients have positive beliefs in controlling themselves and things happening around them. It also helps them reconsider the situations and look for a real understanding of issues. Individuals who suffer from social anxiety are aware of their thoughts of being dangerous and uncontrollable and sometimes they consider them as positive because this helps them save themselves from being dangerous and this increases anxious thoughts and increases awareness of these thoughts. In this model, increase in cognitive control and teaching the methods and principles leads patients to use such methods against their anxious thoughts.

Combining meta-cognitive approach with cognitive and behavioral approaches can teach patients to not only process their beliefs and attitudes objectively, but also be aware of information processing and process information in a way that does not stimulate the self-regulative performance model inefficiently and will lead to a reduction of anxious thoughts among patients. By improving patients' mental problems regarding action and perception, available cognitive-meta cognitive-behavioral techniques in the developed model, focus on improving patients strategies for managing behaviors and proper information processing. This method causes an assessment about people and is effective in strategies such as thought regulations and focused attention on threat and fear of others' judgments and anxious thoughts.

As the sample population was limited to Kermanshah and because the variables of the study were self-reported, generalizing the results of them should be done with caution. Another limitation of the study was the implementation of the intervention by the researcher which might bias the results.

In future studies, the effectiveness of this therapy and intervention could be investigated on the other aspects of social anxiety disorder. This model could be compared with other treatments until the validity and reliability of this method gets approved. For the efficacy of this therapy, it is suggested to be examined with a larger sample size.

Conclusion

This model can improve the studies related to social anxiety and facilitate therapies related to this disorder. The results of this study have significant suggestions regarding the treatment and counseling services for patients with social anxiety disorder. One of these suggestions is that therapists and counselors can apply this model to reduce the anxious thoughts of patients with social anxiety. Moreover, by teaching the techniques and principles of this model, we can reduce medication costs. Furthermore, applying this model seems to be clinically effective and economically efficient.

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