ORIGINAL ARTICLE

The Effectiveness of Education Based on the Cognitive, Meta-Cognitive and Behavioral Model on Reducing Post-Event Processing in the Patients with Social Anxiety Disorder (SAD)

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ABSTRACT

Aim: To investigate the effectiveness of education based on cognitive, meta-cognitive, and behavioral developed model on reduction of post event processing in patients with social anxiety disorder (SAD).
Methods: The research method was semi-experimental design with pre-posttest design with control group. The statistical population included all the patients with social anxiety disorder referring to public and private centers in Kermanshah city (Iran) in 2015 which were selected using available sampling method. Thirty of them who was chosen through semi-structured interviews (SCID-I), post event processing of Rachman et al (2000) questionnaire, that were eligible for the study were divided into two groups of experiment and control (waiting list) and replaced randomly. The instrument used in the study post event processing of Rachman et al (2000). Twelve cognitive, meta-cognitive, and behavioral treatment 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 intervention. After the treatment both groups were evaluated with the test. For data analysis one-way covariance (ANCOVA) was used.
Results: The results showed that education based on cognitive, meta-cognitive, and behavioral developed model has been effective on reduction of post event processing among patients with social anxiety disorder (SAD) 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 post event processing among patients with social anxiety Disorder
Keywords: Social Anxiety Disorder (SAD), Cognitive model, Meta-cognitive model, Behavioral model, Post event processing.

INTRODUCTION

Anxiety disorders are the most common psychiatric disorders both in primary care and in clinical medicine. Studies have constantly shown that anxiety disorders cause many complications and problems. Spend high levels of health care on their own and dramatically reduce quality of life and function in a person[1], Social anxiety disorder (SAD) is the third psychiatric disorder with a prevalence of 13%[2]. It is obvious that without treatment, social anxiety can significantly disturb occupational, educational, and social abilities of people in their life[3].

Various researches have shown that cognitive processes play an important role in creating and sustaining social anxiety. Cognitive theorists emphasize the role of perceptions and distortion assessments of interpersonal relationships, distortions in social information processing, cognitive avoidance of environmental events, post event processing after establishing interpersonal relationships and social information processing[4,5,6,7].

Accordance post event processing model, people examine their internal feelings and behavior in social situations, they know social consequences catastrophisingly and negatively, and they make treasure after event about their past and present actions[8,9]. During the processing of the events, people with social anxiety disorder (SAD), tend to focus on negative information about themselves and other comments about themselves in social situations[10].

Different methods have been used to reduce post event processing such as: cognitive therapy[11,12,13,14,4], behavioral therapy[15] mind fullness therapy[16], that their effectiveness have been proven. However, according to high prevalence of these disorders and their personal, family, and social damages[17,18], caused by these disorders and their impact on reduction of life quality[19,20] and also lack of comprehensive and complete research in the combination of cognitive, meta-cognitive, and

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behavioral factors in the therapy of social anxiety disorder (SAD), it seems that treatment pattern which consider surface structures as well as underlying structure anxiousness is extremely important. Therefore, initially in the form of a model, considering dimensions of cognition (fear of negative evaluation, underlying assumptions, and efficacy), meta-cognition (mind control, negative meta-beliefs, and cognition ability), and behavior (safety behavior and avoidance behavior), a pattern and model was designed that after processing the desired model, considering the theoretical fundamentals of the proposed model, investigates the effectiveness of education based on cognitive, meta-cognitive, and behavioral developed model to reduce post event processing in patients with social anxiety disorder (SAD) in the city of Kermanshah. Iran.

METHODS

This study is a semi-experimental study with pretest-posttest design and with control group. The information was collected to assess the effectiveness of education based on cognitive, meta-cognitive, and behavioral developed model (independent variable) on the reduction of post event processing (dependent variable) among the patients with social anxiety disorder (SAD) in Kermanshah city (In Iran). The statistical population of this study included all the patients with social anxiety disorder (SAD), who referred to private consultancy centers and university consultancy centers in the city of Kermanshah in 2015 which were selected by convenience sampling. For the present study, first from the clients of private and public consultancy centers in Kermanshah (In Iran), 30 individuals, that has been participated in semi-structured interview (SCID-I) received the criteria for social anxiety disorder (SAD), were selected and were randomly replaced in two groups of experiment and control (waiting list).

The criteria for entering the study; take two standard deviation higher than the post event processing of Rachman et al (2000), receive a diagnosis of social anxiety regarding to clinical semi-structured interview, the age range of 20-40 years and not using any psychiatric medication by the patients. The criteria for exiting the study; unwillingness to cooperate in research and existence of other physical and mental diseases. In this study, following ethical aspects were considered:

- The participants in this study had discretion to cooperate and their consent was attracted orally,
- The information of participants was preserved,
- They were assured that 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 1 disorders and has two versions: clinical version (SCID-CV) and research version. In this study clinical version was used. This version covers most common disorders in clinics. It is shorter than the research version. It also starts with an open interview about the current disease and the previous periods of disease. 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[21]. Agreement kappa index was estimated for the categorical diagnosis of 0.48 to 98.8 and the interclass diagnosis of 0.90 to 0.98[22].

Table 1: Cognitive, meta-cognitive, and behavioral model in reduction of post event processing

Sessions	Session content
First session	Familiarity 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, review homework, and take the post-test

Post event processing scale: This questionnaire is a tool pencil-paper which contains 13 items, which for the first time by Rachman et al (2000) were developed and validated[23]. Answers range between zero (never) to 100 (completely agree) that more score means further post event processing. Reliability coefficient of the scale with Cronbach's alpha in all subjects is equal to 0.79. The validity of the questionnaire through the correlation coefficient

between the Penn State Worry Questionnaire obtained in all subjects to 0.49[24].

This intervention was taken from model of Neenan and Dryden (1953), Leahy (2003), Beck (1976), Wells (1962), and Bandura (1997)[25,26,27,28,29]. Item of model described in below:

After selecting and randomly replacing the patients with social anxiety disorder (SAD) in two groups of experiment and control (waiting list), the patients in experimental group received education by cognitive, meta-cognitive, and behavioral model which was designed by Neenan and Dryden (1953), Leahy (2003), Beck (1976), Wells (1962), and Bandura (1997)[25,26,27,28,29]. This educational program was accomplished by the researcher in two months (weekly two 90-minute sessions), since the selected patients were literate the questionnaire was filled with patients themselves. During the implementation of intervention program for experiment group, for control group (waiting list) no intervention received. After the sessions, both groups were evaluated by scale of post event processing of Rachman et al (2000)[23]. The data from the questionnaire was analyzed by univariate analysis of covariance (ANCOVA). Data analysis was performed by SPSS (version 19).

RESULTS

In relation to the demographic profile of patients, all of them were in the age range of 20-40 years old. Average age of patients was 29.38±5, and all of them had university education. Also both experimental group and control group (waiting list) the same according to demographic characteristics. The results of descriptive indicators related to post event processing in both experimental group and control group were reported in Table 2.

Table 2. Descriptive indicators for post event processing

Groups		Experiment		Control
Phase	**Mean**	**St.deviation**	**Mean**	**St.deviation**
Pre-test	985.24	38.35	975.24	3.87
Post test	655.57	36.92	989.29	32.18

In the first covariance analysis, the assumption of normality and homogeneity of variances were assessed. For normality, skewness and kurtosis were used and since the score of post event processing was (0.950, 0.223) in pretest and (1.9, 0.02) in posttest and in normal range (-2,+2), so it has normal distribution. Levene's test was used for equal variances' assumptions. Due to the absence of meaningful levels (0.7, 0.9), it can be concluded that the homogeneity of variances can be established about post event processing variable (table 3).

Table 3: Levene's test for post event processing

Dependent variable	F	DF1	DF2	Sig
Pre test	0.106	1	28	0.7
Post test	0.005	1	28	0.9

After adjusting the pretest scores, the effectiveness of cognitive, meta-cognitive, and behavioral model on reduction of post event processing in patients with social anxiety disorders (SAD) were evaluated. Obtained value of F=837.7 in the meaningful level of P<0.001, demonstrated the effectiveness of cognitive, meta-cognitive, and behavioral model on reduction of post event processing. Considering the evaluated amount of Eta and its meaningfulness, we can say that 96 percent of post event processing variance is determined by independent variable of educating cognitive, meta-cognitive, and behavioral developed model (Table 4).

Table 4: Univariate analysis of variance for post event processing

Statistical descriptive	Mean square	DF	Sum of square	F	Sig	Eta square
Pre test	6543.34	1	6534.34	6.52	0.01	0.195
Group	839495.4	1	839494.5	837.7	0.001	0.96
Error	1002.1	27	27057.6			

CONCLUSION

This study was conducted to investigate the effectiveness of educating cognitive, meta-cognitive, and behavioral developed model on reduction of post event processing in among patients in the city of Kermanshah (Iran). The results of the present study showed that educating the developed model had a meaningful impact on reduction of post event processing. Because there has not been any article under the title of this article, therefore in explaining the assumption with similar subjects. We can name researches in line with this study such as: Brozovich et al (2015)[11], Price & Anderson (2011)[12], McEvoy et al (2009)[13], Kocovski et al (2009)[14], Abbott & Rapee (2004)[4], Madahi (2012)[15], Cassin & Rector (2011)[16], that all approved the effectiveness of cognitive therapy, behavioral therapy and Meta-cognitive therapy (mind fullness).

The intervention is effective on positive and negative meta-cognitive beliefs that lead to bad consequences emotional and distortion in social interpersonal relationships, and provides the opportunity for anxious people to use more coping strategies that reduce the amount of processing the events and rumination. On the other hand, considering that the intervention was a combination of cognitive techniques such as guided self-talk moderate assumptions and attitudes, cognitive

distortion correction, behavioral techniques like relaxation of tensions, coping skills, and meta-cognitive skills such as: correction of positive and negative meta-beliefs replacement of useful meta-cognitive strategies, and education is a technique of attention, it can be expected that through direct and indirect effects on cognitive aspects, and meta-cognitive and, behavioral, causes reduction of post event processing in the patients.

On the other hand, use of cognitive, meta-cognitive, and behavioral techniques beside intervention group, it provides opportunity for anxious people until they realize that this anxiety is not just for them, so others have this experience, and thus feeling of shyness reduced for them.

Until they realize that this anxiety is not just for them, so this experience to others, and thus reduce the feeling of shyness. It is possible to discuss about solutions and coping strategies, and the experience of sympathy and empathy for the distress of others, helps to restore their self-efficacy.

In the end it worth noting that this research demands more study considering the generalization. Due to the limited sample of patients in Kermanshah (In Iran) and also self-reported variables, so we should be cautious in generalizing the results. One of the other limitations was the intervention program handled by the researcher that could influence on results orientation.

CONCLUSION

The results of this study have important implication in the treatment and counseling services for patients with social anxiety disorder (SAD), such as: Therapists and counselors in the field of health and treatment can use this combination model to reduce post event processing in patients with social anxiety disorder (SAD).

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