THE COMPARISON OF THE EFFECT OF COGNITIVE-BEHAVIOURAL THERAPY AND TRAINING SOCIAL SKILLS IN REDUCING POSITIVE SYMPTOMS SCHIZOPHRENIA

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ABSTRACT
The goal of this research is to investigate the effect of cognitive-behavioural therapy and training social skills on reducing positive symptoms in schizophrenia. Method of this study was quasi-experimental and pretest - post-test design was used. In this study, 40 patients were chosen using purposive sampling (available) via the Structured Clinical Interview SCID, psychiatric diagnosis and the implementation of Insight Scale (IS) and they were divided into four groups of 10 subjects (experimental and control groups). Two groups of experiment received 12 sessions of behavioural - cognitive therapy and social skills training. The participants were assessed in two stages of pretest and posttest by Scale Assessment the Positive Symptoms (SAPS) and the list of social skills. After three months of treatment, positive symptoms in the experimental group in comparison with the control group significantly (P <0/0001) declined that indicates the therapeutic effect of both treatment methods. But the results were compared, in the two intervention treatment groups (cognitive - behavioural and social skills), there was no significant difference. According to the findings of this study, the treatment focuses on cognitive distortions and cognitive beliefs as well as Creating social learning environments and activating the patients are factors affecting these interventions and lead to a reduction in positive symptoms in schizophrenia. We can also consider psychological-social therapy as an effective intervention for patients with schizophrenia in Iran.

Key words: Schizophrenia, Cognitive-behavioural Therapy, Social Skills Training

INTRODUCTION
Schizophrenia is a debilitating disorder that usually develops in late adolescence or early adulthood, disrupts socialization and life skills development process, and increases social isolation and failour in fulfilling social roles (Lieberman and Murray, 2001). The disease affects approximately 1% of the population and lifetime prevalence rates of 60/ to 91/ percent have been reported. Due to the early onset of the disease and ruin of all life and the need for continuous care, the said disorder imposes huge amount of money on mental health organization, patients with schizophrenia often occupy half of the beds in mental hospitals (Sadock and Sadock, 2007). Symptoms of schizophrenia are classified in two broad categories: Positive symptoms (such as disruption of perception, thinking and behaviour) and negative symptoms (social isolation) (Sadock and Sadock, 2007). Negative symptoms may be caused by the chronic nature of the disease, depression, social isolation or medication. However, these symptoms take the motivation and energy to work and enjoy engaging in social activities with others from the patient (Block et al., 2004). If compared with positive symptoms, they are a better predictor for the quality of life (Sadock and Sadock, 2007). There is compelling evidence for the role of pharmacotherapy in the removal of the annoying symptoms of this disorder; Antipsychotic treatment in most cases is effective in offsetting the positive signs and reducing the amount of return. However, some patients do not respond to this treatment. Despite the effectiveness of the medication in half the cases, treatment outcome is not desirable, even second-generation antipsychotic are not remedial in these cases. With fewer extrapyramidal effects than the generation of antipsychotic drugs and their efficacy in preventing the return of the disease, 30 to 40 % of people with schizophrenia continue to suffer from the persistent
symptoms (Turkington et al., 2006). At the same time, it should be noted that the medication does not cure the disorder, just removes its symptoms. Therefore, the clinical treatment of patients should include non-drug treatments (see Hertz et al., 2002). Therefore, the current therapeutic approaches to schizophrenia, to minimize the multiple disorders and affect its different aspects are multi-dimensional approach (Sadock and Sadock, 2007). The psychiatric - social rehabilitation has been reported effective. This approach focuses on improving individual performance, his abilities, training skills specially social skills (Sadock and Sadock, 2007). Theoretical basis for the use of CBT and SST is stress-vulnerability model and Bio-Psychology (bio - psycho - social) as schizophrenia. In this area, bio psychological and cognitive damages are merged, leading to reduced social functioning and increased symptoms. Cognitive impairment such as neural cognitive decline and beliefs about ability decrease is changed in old people and some signs of aging and other symptoms increase in young people. For example (physical illness, social isolation, changes in growth, lack of friends and relatives). Potentially, the functions of CBT and SST are modified by: 1) Declining cognitive damages. 2) Reforming individual abilities, social compatibility grows. 3) Corrects dependence on treatments that modify biological factors. Several recent researches showed that CBT is playing a role in challenging the beliefs and reducing depressive symptoms in patients with schizophrenia. SST intervention principles of behavioural and social learning include teaching skills like control treatment, early detection, coping with stress, problem solving, and interpersonal communication skills. Treatment goals are direct and explicit (Mcquaid et al., 2000). There is strong evidence that in psychotic patients combining pharmacotherapy and cognitive-behavioral therapy can cause more durable recovery and reduce relapse if compared with pharmacotherapy (Kingdon et al., 2006). For example, Kingdon et al., (2006), in comparison with the control group, reported more improvement and less recurrence in 15 patients with schizophrenia that in addition to drug, received 12 sessions of cognitive-behavioural therapy. Also, these findings were repeated and verified in a research carried out by Hall (2006) with 25 psychotic patients who in addition to medication have received seven individual sessions of cognitive - behavioural therapy and also in a research conducted Turkington et al., (2002) with 422 patients with schizophrenia, who, in addition to medication, received three months of individual cognitive - behavioural therapy and nine months were under prevention. Based on the results of a meta-analytic study, we found that cognitive - behavioural therapy of psychosis, the greatest effect is on the maintenance phase of treatment (Kingdon et al., 20007). The researches carried out on the effectiveness of social-psychological rehabilitation, and training social skills to Psychiatric patients, particularly patients with efficient chronic schizophrenia by Mac (1998), Liberman and Wallace (2001), and Thompson (1999), have referred to the effectiveness of this method. A few number of researches carried out in Iran, for example, Deh Bozorgi (1993) and Yasrbi (2007), reported that training social skills improves oral communication and reduces aggression in patients with schizophrenia. This study was carried out based on the needs and situation of the psychiatric hospitals in the country with the aim of evaluating the effectiveness of cognitive - behavioural therapy and social skills training (Which is consistent with clinical and cultural conditions in Iran) in reducing positive symptoms of schizophrenia.

**Research Article**

**Research Design**

Research method is quasi-experimental including pretest - post test and experiment and control groups.

**Subjects**

The population under study was comprised of all patients with schizophrenia hospitalized in psychiatric hospital of Professor Moharreri in Shiraz until the end of the third quarter of 2013. It was done after a diagnosis of schizophrenia based on the Structured Clinical Interview for DSM-IV axis I disorders, diagnosis of clinical psychologist and psychotherapist and patient information. Due to the limitations of population, subjects were selected by available sampling method. The sample consisted of 40 patients with schizophrenia using purposive sampling (available) that these 40 patients were randomly and equally divided into 4 groups of experiment and control. Subjects in both treatment groups (experimental) consisted of 10 patients in group cognitive - behavioural therapy and 10 patients in group social skills training techniques. Both groups received cognitive - behavioural and social skills training in 12 sessions of 45 minutes once a week.
After writing the definite diagnosis of schizophrenia based on DSM-IV-TR in the patient's record and confirming this diagnosis by structured clinical interview, SCID, Age range of 20 to 50 years, having, at least, education cycle, the ability to communicate verbally, average vision scale score of 5 and above, Almost one year after the onset of illness or at least not getting better with drug treatment. exclusion criteria are: Definite brain damage, dementia and certain neurological diseases that require special care; being in the acute phase of schizophrenia; Serious side effects of antipsychotic drugs so that apart from the conventional treatment, specific treatment is required; Abuse, intoxication or being deprived of drug abuse (usually cigarette consumption was not the exit criteria); receiving electric shocks at least six months before the study or at the same time. It should be noted that for the failure to comply with the study, in order to assure the patients that their individual characteristics is kept secret, a questionnaire was not used. The Relevant information was kept confidential and in addition, the patients had the right to choose each of the two researches, and the patients were asked to announce their consent in participating in the research. Also, filming and recording sessions were forbidden.

**Instruments of the Study**

The following instruments were used to collect the data.

**Structured Clinical Interview (SCID) (Feist, Spetz, Gebon, Welieamz, 1977):** Structured Clinical Interview is for Axis I disorders in the DSM-IV. Diagnostic structured interview of DSM-DSM-IV (SCID) is the most comprehensive structured interview that is a new tool with a wide range of templates and has close links with DSM-IV decision-making templates for psychiatric diagnosis (Masoudi et al., 2008). This instrument has been formulated regarding a certain degree of flexibility, so that its implementation can be used with different textures and populations of psychiatric patients, hospitalized patients and non-psychiatric patients. SCID has been used more than any other standard diagnostic interview in psychiatric researches. This instrument has good reliability and validity in diagnosing psychological disorders. Tran and Hagan have reported Kapan coefficient of 60% as a valid coefficient among evaluations with SCID. Carrying out a research, Sharifi et al., (1998) translated the Persian version of Structure Clinical Interview (SCID) with a cross-cultural methodology and assessed its validity and reliability. Kapa indexes, diagnostic agreement Percentage, sensitivity and feature were used to assess the validity of the interview. We regarded the presented diagnosis by the psychiatries as Standard Gold. The results of feature are mainly better than the results of sensitivity. In most diagnoses, feature was higher than 85 % and in a half of this number, it was 9% which indicates favourable feature. Sensitivity index was somewhat lower. In order to assess validity, the amount of agreement between test-post tests in the two independent interviews (SCID) was measured. This table includes diagnostic agreement for every current and lifetime class of diagnose. By lifetime diagnose, we mean the existence of diagnose during life (current or past) and by current diagnose, we mean the existence of the expected diagnose in one month ago. Diagnostic agreement for most of the percentages of general specific diagnosis is from average to good. The agreement (total Kapa) for all current general diagnosis is 52% and for all lifetime diagnosis is 55%. Pool Statistics were mostly higher than Kapa. The person version of SCID is a varied instrument for diagnosing clinical purposes, particularly, research and even educational one.

**Beck Cognitive Insight Scale (BCIS):** The above-said scale was built by Beck and his colleagues (Yusefi et al., 2008) to measure the degree of cognitive insight. This scale measures degree of cognitive insight based on the two factors of self-insight and self-confidence. Beck cognitive insight scale, Beck cognitive scale, is a self-measurement instrument and has 15 questions answered by the individual himself. Beck cognitive scale includes a set of questions (Yusefi et al., 2008). This scale was first translated by the authors to be used in the research carried out by Yousfi, Fath Abadi and Iranlu and its inadequacies of the translation were modified by an MA student. This scale was evaluated in terms of validity and reliability. The apparent and content validity of this scale were confirmed by two psychologists and three psychiatrics. Also, internal coordination of the provisions of the main form of scale was obtained by its designers (Yusefi et al., 2008), for scales of self-insight (α = 0/68) and for sub scale of self-confidence (α = 0/70). In the research carried out by Yousefi and his colleagues (2008), for the sub scale of self-confidence (α = 0/79) and for the the total scale (α = 0/74) were obtained. Also, the reliability coefficient
of scale was obtained by weakening $\alpha = 0.72$ and by reexperimenting $\alpha = 0.69$. Similarly, its reliability was obtained using measurement scale of unawareness of psychological disorder reported by the designers of the scale to be $\alpha = 0.86$. In the research conducted by Yusefi and his colleagues, correlation coefficient was $\alpha = 0.83$.

**Scale for the Assessment of Positive Symptoms Anderson (1995):** The scale has 35 articles that are answered on a continuum of six degrees from zero "no" (sign) to five "intense originality" (sign). The higher the score of the individual is, the more severe his symptoms are. This scale includes five groups of symptoms and measure (Hallucinations), delusions, strange behaviour, general disorders in thinking and inappropriate emotions. In comparison with other similar instruments, it is used to measure the effectiveness of therapy in clinical researches and phenomenology of symptoms of schizophrenia. The internal correlation of the Persian version of this scale is 83.0, test with test validity 88.0 and the validity of scoring 87.0.

**List of Social Skills:** This list was prepared by Yasrbi and his colleagues (2007) regarding the content of therapeutic interventions. It has 19 items with scores from 0 to 3. The items include all those skills that are used in therapeutic interventions. In measuring its psychological features, internal correlation was 93.0, validity with reexperimental method was 89.0 and the validity of scoring was 92.0. Also, its content validity was confirmed (Yasrbi, 2007).

**Research Procedure**
In the present study, among the patients with schizophrenia who were hospitalized at Psychology and Neurology Hospital of Professor Moharari during the second 9 months of 2013, those individuals were chosen as subjects who had, at least, educational degree of cycle, were 20-50 years old and acquired 5 and above in insight scale. 20 patients with chronic schizophrenia in experiment group were compared with 20 patients with chronic schizophrenia in control group and after obtaining their consent, they were asked to randomly participate in the process of treatment. In order to make sure of the initial comparison, research groups were assessed in terms of severity of negative and positive symptoms and social skills before starting the intervention using the instruments of the research and there was no significant difference among them. To collect data, the instruments of the research in groups of experiment and control, were performed as pre-test. Then, Therapeutic interventions (cognitive-behavioural therapy and social skills training) were performed for 12 sessions of 45 minutes once a week for the subjects one by one. After the end of the interventions, the instruments of the research were performed for the two groups (post-test). Therapeutic interventions took 3 months. Data collected by SPSS-18 software were analysed in both descriptive and inferential statistics. In descriptive level, frequency and standard deviation were calculated. In inferential statistics, covariance analysis method, repeated measures analysis and variance analysis were used.

**Findings of the Study**

<table>
<thead>
<tr>
<th>The source of the changes</th>
<th>pre-test</th>
<th>post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>experiment group mean (standard deviation)</td>
<td>control group mean (standard deviation)</td>
</tr>
<tr>
<td>cognitive-behavioural positive symptoms</td>
<td>37 (14.29)</td>
<td>36.10 (9.46)</td>
</tr>
<tr>
<td>social skills training positive symptoms</td>
<td>34.80 (8.20)</td>
<td>32.10 (6.78)</td>
</tr>
</tbody>
</table>
Among the 40 subjects of this research, there were 24 men and 16 women and their average age, respectively, was 83.23 (45.3) and 75.22 (80.2). 60%, 30% and 10% of the subjects, respectively, had secondary school degree, diploma and associate degree. The two groups were compared in terms of gender, age, and education.

Table 1 shows the average scores of the two groups in two levels of before the intervention and after the intervention. As table 1 show, there is a significant difference among the means of the two groups of experiment and control in the two therapeutic groups.

Data analysis by covariance analysis shows the effectiveness of cognitive - behavioural therapy in reducing positive symptoms of schizophrenia (Table 2). In other words, when there is pre-test scores, positive symptoms scores are statistically controlled. There is a significant difference between the scores of the two groups of experiment and control (P <0.0001). So, we can say that the interventions reduce positive symptoms scores and it has created a significance difference between positive symptom scores of experiment group in comparison with the control group. Thus, the first research hypothesis (cognitive - behavioural therapy has an effect on reducing positive symptoms of schizophrenia) was confirmed.

Table 2: Results of covariance analysis of cognitive - behavioural therapy, positive symptom scores

<table>
<thead>
<tr>
<th>Sources of change</th>
<th>Square</th>
<th>df</th>
<th>Mean square</th>
<th>F value</th>
<th>Sig.</th>
<th>Eta coefficients</th>
<th>Statistical power</th>
</tr>
</thead>
<tbody>
<tr>
<td>pre-test</td>
<td>1971.71</td>
<td>1</td>
<td>160.88</td>
<td>498.93</td>
<td>.0001</td>
<td>0.96</td>
<td>1</td>
</tr>
<tr>
<td>Group</td>
<td>160.88</td>
<td>1</td>
<td>67.18</td>
<td>40.71</td>
<td>.0001</td>
<td>0.70</td>
<td>1</td>
</tr>
<tr>
<td>Error</td>
<td>67.18</td>
<td>17</td>
<td>33.95</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>25347</td>
<td>20</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Regarding the second research hypothesis, the findings of the research (social skills training reduces positive symptoms in chronic schizophrenic patients) showed that although the pre-test scores of the experimental group subjects were relatively stable, but with the beginning of the intervention, their scores significantly decreased. In other words, when the effect of pre-test positive symptoms scores is statistically controlled, we observe a significant difference between the scores of experiment group and control group (table 3). So, we can say that social skills interventions increased the scores of social skills and have created a significant reduction in positive symptom scores in the experiment group in the comparison with the control group. The second hypothesis of the study (social skills training have an effect on reducing positive symptoms of schizophrenia patients) was confirmed.

Table 3: Results of covariance analysis of the positive symptoms of social skills training

<table>
<thead>
<tr>
<th>Sources of change</th>
<th>Square</th>
<th>df</th>
<th>Mean square</th>
<th>F value</th>
<th>Sig.</th>
<th>Eta coefficients</th>
<th>Statistical power</th>
</tr>
</thead>
<tbody>
<tr>
<td>pre-test</td>
<td>868.80</td>
<td>1</td>
<td>868.801</td>
<td>163.39</td>
<td>0.0001</td>
<td>0.90</td>
<td>1</td>
</tr>
<tr>
<td>Group</td>
<td>61.44</td>
<td>1</td>
<td>61.441</td>
<td>11.55</td>
<td>0.0001</td>
<td>0.40</td>
<td>0.89</td>
</tr>
<tr>
<td>Error</td>
<td>90.39</td>
<td>17</td>
<td>5.31</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>21813</td>
<td>20</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
Data analysis with variance analysis test showed that there is no significant difference between the effectiveness of cognitive-behavioural therapy and social skills training in reducing positive symptoms of schizophrenia. In other words, both treatments were equally effective in reducing positive symptoms in schizophrenic patients. That is, the two groups had significant difference in effectiveness. Thus, third hypothesis of the study (there is no difference between the effectiveness of the two groups of cognitive-behavioural and social skills training in reducing positive symptoms of schizophrenia) was not confirmed.

**RESULTS AND DISCUSSION**

**Discussion**

As noted above, the results of this study showed the effectiveness of two methods of cognitive-behavioural therapy and social skills training in comparison with pre-test and post-test in reducing symptoms of patients with schizophrenia. In addition, the results of this study found no significant difference between the two methods of treatment, cognitive-behavioural and social skills training. Results concerning the effect of cognitive-behavioural therapy confirm the results of previous studies. The findings of this study showed that patients who received cognitive-behavioural therapy showed significant improvement in positive symptoms, which is indicative of the effectiveness of cognitive-behavioural therapy. These findings are consistent with the findings of the researches carried out by Wykes et al., (1999), Haddock et al., (1999), Turkington et al., (2000), Hall and Taryr (2006), Kingdon and Hansen (2007), Mcquaid et al., (2000), Sensky (2000), Key (2001), Grant (2012), Khodayari (2007), Raghibi (2010), Ali Beigi et al., (2011), Amirpoor et al., (2011). In explaining these findings, it can be said that since positive signs of inappropriate behaviour are known with unusual symptoms such as hallucinations, delusions, and disorder in thought and impaired speech, it can be concluded that hallucinations and delusions in patients with schizophrenia can decrease their quality of life because perceptual or sensory errors, for example, the imagination that people are going to abuse him or his enemies chasing him ruin his life and reduce the patient's interaction with the world around him. Consequently, they create disorders in his normal performance (Frouzandeh, 2012). CBT techniques react against the positive symptoms by evaluating and challenging the perceptual and cognitive errors and
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cognitive distortions and skills required solving these errors and normalization methods of hallucinations and thoughts record, schemas modification, note-taking of daily voices, creating resisting skills coping, concentration strategies, and gradual encounter (Sensky, 2000). Meta-analyses (Zimmerman, 2005), more than 20 randomly controlled study, have confirmed the effectiveness of cognitive-behavioural therapy in reducing positive stable symptoms in patients with schizophrenia (Turkington et al., 2006). There is recurrence reduction (Gomel, 2003), comorbidity of substance or drugs (Haddock, 1999), and early symptoms of psychosis (Morrison et al., 2004). Another important finding demonstrates the usefulness and acceptability of this technique in clinical work (Turkington, 2011). The findings of this study also showed social skills have a positive effect on patients thinking so that abnormal thought content, gentlemanly, suspicion and pessimism have improved and the difference between pre-test and post-test means was significant. However, previous research only reported the effectiveness of social skills training therapy in negative symptoms (Auchus, 2003). These findings were consistent with findings of the researches conducted by Tilver and Sharp (2003), Liberman (2001), ten large (1372), Fallahi (2007). In explaining these findings, we can say, social skills training has utilized social learning and behavioural principles to teach skills including control treatment, early detection, coping with stress, problem solving, and communication skills. Thus, these skills lead to patient's rehabilitation in social interactions. Social skills have been able to decrease anxiety, stress, and disturbance of these patients (Fallahi, 2007). These findings were consistent with the findings of the researches carried out by Auchus et al., (1995) that have demonstrated activity in reducing negative thinking, enhancing problem-solving skills and effective decisions. Also reviewed by Taylor, Sensky and Needle have reported the effect of the two treatment methods on the depressed patients admitted to inpatient units as well as positive effects on mood and cognitive improvement of patients.

In this research, the third research hypothesis was rejected based on recent research findings and has not been approved. In other words, there was no significant difference between CBT and SST therapies and these findings were consistent with the findings of the researches done by Mack et al., (2000). At the present time, no research in Iran and outside of Iran has been carried out in order to be able to compare these findings with their findings. In a research carried out by Mcquaid and colleagues (2000), titled "integrative intervention growth of social skills training and behavioural-Cognitive therapy for adult patients with schizophrenia", no significant differences were found between the two methods of CBT and SST. The results of this study showed, briefly, integration of CBT and SST were beneficial because: 1- Both were effective in reducing symptoms and cause to easily treat younger patients. 2- They were taken from common, logical and complementary interventions. 3 - Older patients did not have certain beliefs about the changes in CBT that is useful. 4- Older patients suffered from stressful factors including attention-deficit and support and health issues for CBT and SST. 5. Finally, repetitive, abstract and learning pattern of SST is possible and helps cognitive defects. SST and CBT refer to different needs at the same time. Although CBT directly determines thinking disorder and provides people with skills in changing thought and modifying performance, SST focuses on non-concentrated behavioural skills and emphasizes on recognition. Both approaches had positive performance, as far as our knowledge is concerned, there was no regular and careful integration of these designed patterns for reinforcing them. In this study, the treatment time was short and there was no follow-up period for continuously analysing the outcomes of the treatments. Analysing the follow-ups can present more careful findings. As Wykes and his colleagues, in 40-session cognitive therapy, showed memory improvement will lead to improving social performance. Another study indicated that giving clear, repetitive and calm information compatible with real problems of the patients can contribute to growing usefulness. Previous researches had showed the time required for effectiveness of the interventions in long term. The success of this treatment program and its achievements was impossible without compatibility with cultural, social and cognitive conditions of the patients. At the end, we must note that it is difficult to socially and psychologically treat patients hospitalized for long periods of time in short term. The lack of follow-up period for continuously analysing the effectiveness of the interventions is one of the limitations of the study that is suggested to be considered in the future researches.
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