The Effectiveness of Cognitive-Behavioral Group Therapy on Improving Self-Care Skills among Women with Chronic Schizophrenia

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Abstract

Introduction: Schizophrenia is a chronic, debilitating disease that imposes a great care of burden on families and mental health care providers. Therefore, the issue of self-care is very important in these patients. The present research aimed to determine the effectiveness of cognitive-behavioral group therapy on improving self-care skills in women with chronic schizophrenia

Method: Women with chronic schizophrenia were studied in two groups of intervention (N=9) and control (N=10) at Hejazi hospital in Mashhad, Iran. The intervention group received cognitive-behavioral group therapy and the control group received routine care. The self-care questionnaire and the Positive and Negative Symptoms Scale (PANSS) was completed pre-intervention, post-intervention and 6-months follow up.

Results: The results of Mann-Whitney U test indicated that the mean score of total self-care and general psychopathological symptoms variation in the intervention group was significantly higher than the control group during pre and post-intervention stages (p = 0.001, Cohen's d > 2). Also, there was significant higher variation during pre-intervention and 6-months follow up stages (p<0.05, Cohen's d<0.50).

Conclusion: Cognitive behavioral group therapy can affect self-care skills in women with chronic schizophrenia.

Keywords: Cognitive Behavioral Therapy, Group Therapy, Self-Care, Chronic, Schizophrenia

Introduction

Schizophrenia is a chronic and debilitating disease that is associated with serious clinical outcomes due to frequent recurrence periods, lack of treatment and poor insight into the disease and causes frequent hospitalization of these patients [1]. In spite of many efforts concerning the treatment of schizophrenia, the symptoms of this disease act as a major barrier to self-care and independent life skills in these patients [2]. As a result, most of these patients have a poor understanding of individual health [3] and in the chronic phase of the disease due to the lack of acceptance of the patient's role and non- accountability to maintain health, lack self- care skills [4]. Therefore, considering that self-care weakness in

patients with schizophrenia can be related to the process of disease, lack of insight into the disease or because of weakness as part of the disease; most efforts to strengthen self-care skills in these patients have been neglected [5].

Self-care is people's willingness to make behavioral changes as a means to enhance well-being and health [6] which, in spite of self-fragile, is applicable in patients with chronic schizophrenia. In comparison with other chronic diseases, due to a certain level of rationality and awareness, it needs to be practiced more [4]. Studies have shown that encouraging patients with chronic psychiatric disorders can strengthen and apply self-care skills and continue their drug therapy [7]. The social and emotional support of families and relatives can also be very helpful in this regard [8], but most families disregard these people because of the lack of understanding of the signs and symptoms of psychiatric disorders [9].

Taking care of patients with schizophrenia is one of the major challenges in mental health services, because these patients often refuse to receive help. Sometimes, due to persistent delusions, they consider their beliefs to be more correct than others. Since the main aim of the treatment of patients with schizophrenia is to increase performance and decrease mental distress, it seems that most psychological treatments (regardless of the delusions that have no emotional outcomes for the patient) can be used to strengthen self-care skills in these patients [10].

Studies have shown that psychological interventions in the form of a group have more efficacy in improving the social function of patients with schizophrenia [11]. This is due to the fact that intra-group therapeutic factors, such as constructive interactions between members in providing peer support to confront feelings of isolation and rejection, lead to this treatment preference over other individual approaches that are also cost-effective [12]. In other words, in homogeneous groups, meeting people with similar problems makes them feel more empowered and, by strengthening the support network, allows them to practice their self-care skills without being concerned about others judging [13]. On the other hand, cognitive-behavioral therapy has been recognized as an effective treatment for the elimination of self-fragile beliefs and behaviors in patients with schizophrenia [14]. As in the clinical guideline of the American Psychiatric Association (1994), cognitive behavioral therapy is one of the first line psychological treatments for the treatment and care of patients with schizophrenia, which can be used in acute or post-acute phase in hospitalized patients [15]. Therefore, most group therapies are based on cognitive behavioral therapies [16]. Cognitive behavioral therapy estimates relationship between thoughts, feelings and behavior associated with symptoms and current and past performance of patients with schizophrenia. Cognitive behavioral therapy examines perceptions and beliefs and their relevant causes in this way. Accordingly, cognitive-behavioral therapy promotes performance and conformity to symptoms [15]. Therefore, the standard protocol of cognitive-behavioral therapy is designed based on the symptoms of delusions and hallucination,

which is used in numerous studies [17]. However, the results of Cochrane's review studies have not confirmed its effect on the long-term improvement in schizophrenia symptoms [18]. Other studies in the field of cognitive behavioral group therapy have examined its effect on the psychological issues in patients with schizophrenia, such as reducing social anxiety [19], improving self-esteem [20], reductions in attention deficit hyperactivity disorder symptoms [21], decreasing thought-action fusion, thought suppression, and guilt feeling [22] and reducing symptoms of auditory hallucination [23]; which does not indicate the purpose of this study. Therefore, considering the social regression of patients with chronic schizophrenia and lack of proper family support, it seems necessary to pay attention to their self-care skills in these patients. Therefore, the researchers of the present study decided to conduct a study with the aim of determining the effectiveness of behavioral cognitive group therapy on improving self-care skills in women with chronic schizophrenia.

Method

This randomized, single-blind clinical trial was conducted in Hejazi Psychiatric Hospital in Mashhad, Iran (August 2018 to May 2019). After approving the ethical committee of Mashhad university of medical sciences, all hospitalized women patients in this hospital were recruited and a written consent was taken (from the patient and his/her guardian) to participate in the study .The patients who were qualified to participate in the study, were randomly allocated into intervention and control groups. The allocation of groups were hidden from the statistics expert. The criteria for participating in the study included: diagnosis of schizophrenia based on DSM-5, aged 25 to 55 years, verbal ability, 8 or more grade education, no change in the standard dose of antipsychotics in the last 3 months, and the exclusion criteria included: drug and alcohol abuse, epilepsy and mental retardation, conflict with legal issues, severe physical conditions which need to be treated, physical contact with group members and therapists, and patient unwillingness to attend in the study.

The self-care skills checklist was designed by the researcher, based on a review of the literature and experiences of the expert panel. The expert panel included 14 people consisting of five nurses, two head nurses, five psychiatrists and two clinical psychologists who were in direct contact with these patients and had at least five years of experience in the hospital.

The questionnaire consisted of 33 questions in five subscales of dressing (5 items), nutrition and eating status (6 items), environmental cleanup status (4 items), personal grooming and health care status (11 items), educational-medical points observation (7 questions), which was scored at the 5-degree Likert scale as never = 0, rarely = 1, sometimes = 2, often = 3, always = 4, and the highest score indicated higher self-care skills. The content validity of this questionnaire was reviewed and approved by a specialist panel consisting of 10 psychiatric nurses, psychiatrists and clinical psychologists working in Hejazi Hospital in Mashhad who were not involved in designing

the checklist (CVI=0/78, CVR= 0/82). Its internal reliability as internal consistency and with Cronbach's alpha coefficient in different subscales of dressing (α=0/97), nutrition and eating status (α = 0/92), environmental condition (α = 0/94), status of personal grooming and health care (α = 0/99), and the status of educational-medical points observation (α = 0/89) was confirmed.

The PANSS for schizophrenia, which was designed in 1987 [24], has 30 expressions that are scored through a 7-point scale as missing = 1, very mild = 2, mild = 3, moderate = 4, almost severe = 5, severe = 6, and extremely severe = 7. Among the expressions, seven expressions are related to positive symptoms, seven expressions are related to negative symptoms and 16 remaining expressions are used to measure general psychopathological symptoms. The psychometric properties of this questionnaire were confirmed by Peralta et al. [25] . The reliability of this questionnaire was confirmed by Kay et al. for a positive, negative, general psychopathology symptoms scale with a correlation coefficient of 0.73, 0.83 and 0.79, respectively [26]. Data were collected in three stages of pre-intervention, post-intervention and 6-months follow up.

Interventions of behavioral cognitive group therapy was performed homogeneously based on the gender of the subjects (women) during 10 sessions weekly (two sessions per week) and for 35 days in 10-member groups. The duration of each session was about 60 minutes, during which the first 10 minutes of each session was relaxation exercise and 40 minutes was allocated to session topics and during the last 10 minutes the results were summarized. Behavioral cognitive therapy group was based on self-care issues and was performed with the aim of promoting it in patients with chronic schizophrenia who suffered from cognitive regression and had been excluded from the society due to persistent symptoms. This treatment plan was designed by a Ph.D. student in clinical psychology and two psychiatrists with five years of experience in behavioral cognitive group therapy on schizophrenic patients who had received the necessary training in this field (table 1).

Data were analyzed by SPSS software version 22. Chi-square, Fischer's exact tests were used to compare the background variables of marital status and education. As the sample size was less than 30, a non-parametric Mann-Whitney U test was used to inter-group comparison quantitative variables, and the non-parametric Friedman test was used to intra-group comparison [27].

The effect size based on Cohen's formula"$d = \frac{Me-Mc}{Sample\ SD\ pooled} \times (\frac{N-3}{N-2.25}) \times \sqrt{\frac{N-2}{N}}$ Was used in studies with repeated measurement design which decreased by 4% due to sample size = 20 people [28]. In the performed tests, the confidence level was 95% and the significance level was α = 0.05

Table 1. Cognitive Behavioral Group Therapy Sessions

	Topic
Session1	Relaxation exercise Investigating and challenging the state of clothing of patients in the ward summary and conclusion of the end of the session
Session 2	Relaxation exercise Gathering the homework of the previous session that were mentally and textually reviewed Talk about homework, summary and conclude the end of the session
Session 3	Relaxation exercise Investigating and challenging the nutrition status and eating habits of patients in the ward summary and conclusion of the end of the session
Session 4	Relaxation exercise Gathering the previous session homework that were mentally and textually reviewed Talk about homework summary and conclusion of the end of the session
Session 5	Relaxation exercise Investigating and challenging the cleanliness of the environment of patients in the ward summarize and conclude the end of the session
Session 6	Relaxation exercise Gathering the previous session homework that were mentally and textually reviewed Talk about homework Summary and conclusion of the end of the session.
Session 7	Relaxation exercise Investigating and challenging the personal grooming and health care of patients in the ward Summarize and conclude the end of the session .
Session 8	Relaxation exercise Gathering the previous session homework that were mentally and textually reviewed Talk about homework Summary and conclusion of the end of the session
Session 9	Relaxation exercise Investigating and challenging the status observance of educational-medical points in the ward summary and conclusion of the end of the session
Session 10	Relaxation exercise Gathering the previous session homework that were mentally and textually reviewed Talk about homework Summary and conclusion of the end of the session

Results

In order to conduct this study, 150 women with chronic schizophrenia who were hospitalized in Hejazi Hospital were enrolled to participate in the study through hospital admissions records. Among them, 45 patients were eligible to participate in study. Only, 20 patients along with their guard signed the written consent.

The 20 patients were allocated randomly in the intervention (A=10) and control group (B=10), randomization sequences were computer-generated in random blocks of four, based on five different states of ABAB, ABBA , BABA, BBAA, AABB. One of the participants died during 6-months follow up so she was eliminated from the study.

The random allocation process was carried out by one of the authors who did not participate in the selection of participants. About 40 % of the participants in the current study were third-grade middle school, 65% were single with a mean age of 40.8 ± 9.20 years and a duration of hospitalization of 8.8 ± 6.5 years (Table 2).

The results of Friedman test indicated that in intra-group comparison within the intervention group, there was a significant increase in the mean score of total self-care skill (p= 0.002), and a significant decrease in the mean score of positive symptoms during the test stages (p= 0.007). However, there was no significant variation in the control group. (Other results are presented in table 3).

In inter-group comparison, the results of Mann-Whitney U test indicated that the mean score of total self-care variation in the intervention group was significantly higher than the control group during pre and post-intervention stages (p = 0.001, Cohen's d = 2.36). Also, there was significant higher variation during pre-intervention and 6-months follow up stages (p=0.04, Cohen's d=0.21). On the other hand, the results of Mann-Whitney U test indicated that the mean score of general psychopathological symptoms variation in the intervention group was significantly higher than the control group during pre and post-intervention stages (p=0.001, Cohen's d=2.86). Also, there was significant higher variation during pre-intervention and 6-months follow up stages (p=0.03, Cohen's d=0.35) (Other results are presented in table 4).

Table 2. Demographic Characteristics of Women Patients with Chronic Schizophrenia in two Intervention and Control Groups

variable		Intervention n=9 N (%)	Control n=10 N (%)	
Education	Third -grade middle school	3 (33.30)	4 (40.00)	*P=0.60
	Under the diploma	2 (22.20)	4 (40)	
	Diploma	3 (33.30)	2 (20.00)	
	Academic	1 (11.20)	0 (0.001)	
Marital Status	Single	6 (66.70)	6 (60.00)	*P=0.87
	Married	2 (22.20)	3 (30.00)	
	Divorced	1 (11.10)	1 (10.00)	
Age	25-35	3(33.30)	2(20.00)	
	36-45	5 (55.60)	4(40.00)	*P=0.63
	46-55	2(22.20)	4(40.00)	
Duration of Hospitalization	3-9	6(66.70)	7(70.00)	
	10-15	3(33.30)	2(20.00)	*P=0.81
	16 >	1 (11.10)	1(10.00)	

Table 3. Intra-group comparison of self-care skills and its different subscales in women with chronic schizophrenia in two intervention and control groups

		Pre-test M ± SD	Post-test M ± SD	6-month Follow up M ± SD	X²	df	p-value (Friedman test)
positive symptoms	intervention	26.33 ± 4.23	27.32 ± 4.10	23.30 ± 8.94	3.90	2	0.14
	Control	32.23 ± 4.91	30.72 ± 6.20	28.70± 6.00	9.80	2	0.007
negative symptoms	intervention	33.41 ± 7.11	34.13 ± 6.40	29.22 ± 11.61	3.51	2	0.17
	Control	31.01 ± 3.60	32.23 ± 3.82	29.81 ± 4.41	5.82	2	0.048
General psychopathological symptoms	intervention	66.31 ± 9.60	59.71 ± 9.01	54.20 ± 20.90	15.00	2	0.001
	Control	70.3 ± 7.1	69/1 ± 7/4	67.4 ± 8.6	4.00	2	0.13
Total self-care skill	intervention	55.21 ± 28.00	70.9 ± 26.1	65.40 ± 31.82	12.21	2	0.002
	Control	72.00 ± 33.30	72.54 ± 30.40	76.80 ± 28.21	0.05	2	0.97
Dressing status	intervention	9.60 ± 4.51	14.51 ± 3.60	14.82 ± 6.00	11.72	2	0.003
	Control	12.00 ± 6.11	12.52 ± 5.70	13.20 ± 5.00	5.11	2	0.48
Nutrition and eating status	intervention	9.30 ± 4.71	15.81 ± 4.11	14.71 ± 6.30	12.50	2	0.002
	Control	12.81 ± 5.54	12.40 ± 3.62	12.01 ± 4.00	3.51	2	0.17
Environmental cleanup status	intervention	6.61 ± 4.34	11.00 ± 3.50	10.51 ± 4.72	1.72	2	0.002
	Control	9.82 ± 4.62	10.83 ± 4.30	11.52 ± 3.91	5.10	2	0.43
personal grooming and health care	intervention	16.21 ± 9.411	16.42 ± 10.00	13.63 ± 9.71	2.80	2	0.25
	Control	21.51 ± 12.70	21.51 ± 12.62	22.41 ± 10.61	2.51	2	0.28
Educational-medical points observation	intervention	0.30 ± 1.90	13.20 ± 7.11	11.81 ± 7.71	14.43	2	0.001
	Control	0.50 ± 2.21	16.80 ± 7.62	17.70 ± 6.50	15.20	2	0.001

Table 4. Inter -group Comparison of Self-care Skills and its Different Dimensions in Patients with Schizophrenia in two Groups of Intervention and Control

Outcome Variables		intervention m ± SD	Control m ± SD	z	p-value (Mann-Whitney U)	Effect size	Effect size Corrected (4% reduction)
Positive symptoms	T1-T2	3.00 ± 8.91	3.52 ± 2.92	1.59	0.11	-	-
	T1-T3	2.40 ± 6.32	2.92 ± 11.21	1.24	0.12	-	-
Negative symptoms	T1-T2	7.00 ± 2.81	1.21 ± 2.31	0.49	0.62	-	-
	T1-T3	4.20 ± 8.80	1.21 ± 4.10	0.91	0.36	-	-
General psychopathological Symptoms	T1-T2	6.61 ± 1.20	1.22 ± 2.10	3.82	0.001	2.98	2.86
	T1-T3	12.11 ± 17.80	2.91 ± 5.82	2.12	0.03	0.37	0.35
Total self-care skill	T1-T2	15.71 ± 5.52	0.51 ± 5.61	3.56	0.001	2.46	2.36
	T1-T3	10.20 ± 24.61	4.80 ± 19.01	2.01	0.04	0.22	0.21
Dressing status	T1-T2	4.90 ± 2.01	0.51 ± 1.31	3.29	0.001	2.33	2.24
	T1-T3	5.20 ± 6.11	1.20 ± 3.00	2.43	0.01	0.75	0.72
Nutrition and eating status	T1-T2	6.51 ± 1.92	0.42 ±2.32	3.81	0.001	2.61	2.50
	T1-T3	5.41 ± 4.53	0.81 ± 3.12	2.70	0.007	1.10	1.06
Environmental cleanup status	T1-T2	4.42 ± 2.33	1.00 ± 2.02	2.81	0.005	1.42	1.36
	T1-T3	3.92 ± 5.13	1.72 ± 2.92	1.96	0.05	0.48	0.46
personal grooming and health care	T1-T2	0.21 ± 1.42	0.02 ± 1.82	0.31	0.76	-	-
	T1-T3	2.60 ± 5.72	0.91 ± 8.01	0.12	0.91	-	-
Educational-medical points observation	T1-T2	12.91 ± 7.50	17.31 ± 8.91	1.21	0.23	-	-
	T1-T3	11.50 ± 8.10	18.21 ± 7.22	1.86	0.06	-	-

T1= Pre-test, T2= Post-test, T3=6-month Follow up

Discussion

The study aimed at determining the effect of cognitive behavioral group therapy on improving self-care skills in women hospitalized with chronic schizophrenia, in which schizophrenia symptoms were investigated as secondary outcomes. The results indicated that following the implementation of cognitive behavioral group therapy based on self-care skills, total self-care skills and subscales of dressing, nutrition and eating and environmental cleanliness status were significantly improved and had a large effect size. Also, the effect of cognitive behavioral group therapy on improving self-care skills and these three subscales after six months also continued with medium effect size. Based on PANSS scale results, the general psychopathological symptoms of the disease were significantly improved during the test stages.

Self-care in health care systems is encouraged as a means of promoting behavioral change [29]. Patient self-confidence is very effective in accepting and implementing these behavioral changes [2]. In patients with schizophrenia, the characteristics of negative symptoms and beliefs about inability to take care of themselves have diminished motivation in independent performance [1]. As a result, emotional and social deprivation, and impaired social relationships and poor grooming due to negative symptoms have led to an increasingly social regression of these patients and a decrease in their motivation and self-confidence in caring about themselves [30]. While social interactions with others by providing patient independence can have a significant impact on designing self-care programs, pursuing their own self-care and its acceptability [2]. Therefore, the implementation of psychosocial interventions such as cognitive behavioral therapy in the form of group therapy can reduce social isolation and makes a person feel belonged to a group. Thus, this

process is effective in improving self-care skills as the presence of a person in a group with similar problems leads to a feeling of receiving value and attention.

From a view point, the results of this study showed that although in the cognitive behavioral group therapy, the subscales of educational-medical points observation was not significantly improved compared to the control group, in both groups, the mean change of this subscales was increased significantly and this increase was higher in the control group. Although changes in the positive and negative symptoms in the control group, were not significant in comparison with the cognitive behavioral group therapy, in the control group, these changes were significant during the test stages. During this study, the control and intervention groups were hospitalized in separate wards throughout the research period and were not in contact with each other. In fact, this study was conducted on the patients with chronic schizophrenia who, had a severe social regression and had little contact with the community and family. Therefore, it seems that receiving the slightest attention from health care personnel, such as completing the checklist, has enhanced the sense of value in them. It has strengthened this subscale in both groups. Difference in results may be due to individual differences in response to treatment. On the other hand, the results of this study showed that the implementation of cognitive-behavioral group therapy did not have a significant effect on the subscale of personal grooming and health care status. This is while Yoshii et al. showed that, despite the fact that patients with chronic schizophrenia have poor perception of individual hygiene, educational interventions can increase the motivation and lead to encouragement of these patients to observe individual hygiene [30]. In this study, the perception of individual hygiene in patients with chronic schizophrenia was significantly higher than those

with acute schizophrenia. Therefore, it seems that the patients with chronic schizophrenia in the study of Yoshii et al. have had a better health status than the patients in the present study. Since in the present study, patients with chronic schizophrenia had a very low level of care, they were even unable to eat and dress and needed the help and care of others. Failure to comply with personal hygiene is associated with secondary negative symptoms of schizophrenia. It may have been stabilized in these patients. Thus, it seems that more empowering factors should be used to promote this dimension.

The limitation of this study was the low sample size. Due to the cultural conditions of Iran which necessitated the written consent of the family (patient caregiver) to participate in the research, many people were excluded from the study. This is due to the fact that the hospitalized people were often not supported by the family due to chronic illness and symptoms, and were kept in the hospital permanently.

Conclusion

The results of this study showed that despite severe social regression of patients with chronic schizophrenia and their separation from the community, interventions of cognitive behavioral group therapy can improve their self-care and subscales of dressing, nutrition and eating status with a large effect size that lasted even after six months with a medium effect size. However, the results showed that cognitive behavioral group therapy was not effective on just the subscales of personal grooming and health care. Actually, in addition to cognitive behavioral group therapy, more empowering factors should be used to promote it .

Acknowledgment

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