

*Original Article***The effect of occupational therapy on negative symptoms of schizophrenia***M. Yazdani\**, *B. Michaely\*\**, *S. Pahlavanzadeh\*\*\**, *A. Farzan\*\*\*\****Abstract**

**BACKGROUND:** Nowadays, schizophrenia is one of the most important disabling mental disorders in the world. Regarding to occupational therapy as one of the most essential treatment for this disorder, the main aim of this study is to determine the effect of it on negative symptoms of schizophrenias patients.

**METHODS:** This study is a clinical trials research and the samples were 84 schizophrenia patients of psychiatric ward of Farabi hospital in Isfahan. Sampling method was convenient and the samples were divided in to two interventional and control group randomly. The data collecting tool was scale for assessment of negative symptoms (SANS) and analyzing was performed by T-test, Wilcoxon and Mann-Whitney test.

**RESULTS:** Findings showed that occupational therapy activities decrease the mean of significant differences of negative symptoms of schizophrenia such as flat affect, mutism, apathy, dissocial, loss of attention and the mean of significant difference in two groups, revealed a significant statistics difference in both at the beginning and the end of this study.

**DISCUSSION:** Because occupational therapy and its related activities has an effective role on the symptoms of schizophrenia patients, rehabilitation is suggested in different field of treatment so that patients can get appropriate self respect and as well as a good level of social interactions.

**KEY WORDS:** Occupational therapy, schizophrenia, negative symptoms.

IJNMR 2007; 12(3): 86-90

The prevalence and extent of psychological diseases as the modern age disease is a problem drawn the attention of all mental health scientists to itself <sup>(1)</sup> and schizophrenia known as psychological cancer like the most important and hard mental disease has a special importance <sup>(2,3)</sup> and take the attention of celebrated psychiatry and psychology and even neurology to itself <sup>(4)</sup>. Schizophrenia patients included about 50% of all of the beds of psychiatry wards to themselves and generally they are 16% of all the psychiatry patients,

while about 75% to 80% of them are highly disabled and unemployed. The prevalence of this disorder is 1% all over the world and statistics shows 2,000,000 schizophrenia patients in America <sup>(5)</sup>.

about 600,000 persons enamored of this disorder but only 100,000 of them underwent treatment in Iran <sup>(6)</sup>.

Considering the age of prevalence, 15- 35, and the youth and efficiency ages, the study of the signs and symptoms, affects and schizophrenia treatment process are very important <sup>(5)</sup>.

\* MSc, Department of Psychiatric Nursing, School of Nursing & Midwifery, Isfahan University of Medical Sciences, Isfahan, Iran.

\*\* MSc of Psychiatric Nursing.

\*\*\* MSc, Department of Psychiatric Nursing, School of Nursing & Midwifery, Isfahan University of Medical Sciences, Isfahan, Iran.

\*\*\*\* MSc, Department of Biostatistics and Epidemiology, School of Health, Isfahan University of Medical Sciences, Isfahan, Iran.

Correspondence to: Mohsen Yazdani MSc.

E-mail: mohsen\_yazdani@nm.mui.ac.ir

Research Article of Vice Chancellor of Isfahan University of Medical Sciences, No: 81154.

The signs and symptoms of this disorder usually divided into three groups, positive, negative and cognitive group and the negatives considered as a major clinical crises (7).

Findings showed that the use of anti psychotics drugs were effective in reducing the risk of the patient's presence in hospital , but has low effect on getting job, independent life and patients ' personal correlations . So, standard treatment of schizophrenia includes a compound of medical and non medical treatment, and for this reason mental rehabilitation and occupational therapy have special importance and mental scientists only recommended both of them (8,9,10).

The main targets to treat all psychiatric patients such as schizophrenia are to improve their life quality and help them to reach a normal situation in daily life and also reduce the treatment, the intensity of symptoms and prevention of the disease effects, so it would be possible only with a standard and complete treatment program to help these patients (11,12).

According to the present studies, many effects of humans and disabling effects of schizophrenias are because of the expenses and deficiencies due to the reappearance of disease which impose to the person, family and the society, so the combination of medicine and occupational therapy during the hospitalization and after it has highly emphasis as a major factor in controlling the reappearance of disease's periods.

Occupational therapy is introduced as one of the socio-mental treatments leads the patient to a normal life as much as possible (13). Occupational therapy pioneers believe that use of muscles and mind at the same time in play, gym and activities and even in work can affect on human health and this belief become the base of implying play and gym as the therapeutic methods (14).

Activities such as cooking, money management, grocery shopping and transportation are used to improve self-esteem and promote a realistic level of independent living (15), besides activity can be useful in finding a relationship between patient and social life and society (16).

An important goal of occupational therapy is to foster clients' participation in daily life (17). Psychiatric-nurse, because of the close and more contact with patient, always has an important role in treatment process and one of his roles is rehabilitation that help the patient to adapt himself after mental and physical disturbs as much as possible. So this research was performed on the aim of determining the effect of occupational therapy on negative signs and symptoms of schizophrenia.

Special targets of this study have been consisted of determining and comparing the significant mean difference of negative signs and symptoms of schizophrenia like as flat affect , mutism, apathy, dissocial, loss of attention in both groups, interventional and control, before and after the occupational therapy .

## Methods

This research was a clinical trial that studied the effect of independent variable (occupational therapy) on dependent variable (signs and symptoms of schizophrenia).

In this study the samples were schizophrenia patients in psychiatric ward of Farabi hospital in Isfahan that had the specifications of studied units, selected by convenient sampling method and put in two equal groups, interventional and control, accidentally.

The Entering condition of samples in this study were consisted of not being suffered from mental retardation , passing the acute period of disease during the study , having no physical deficiency and being in range of 15-45 years old . The scale for not being entered in it were patient's sudden release before accomplishment the executive occupational therapy's period and more than 2 sections absence in occupational therapy sessions in the interventional group . The collecting tool was the scale for assessment of negative symptoms in schizophrenia has been completed for both two groups in two times, before and after occupational therapy.

The scale has five main items, flat affect, mutism, apathy, dissocial and loss of attention, measured by the psychiatric assistant and re-

searcher and scoring was done by answering each question with the six- point scale. Each question had 0-5 mark interval.

That scale had a scientific credit and trust ( $r=0.92$ ) and it had been compiled as a standard tool in evaluating the treatment procedure and improving the signs and symptoms by Andreason in 1992 in Iowa university (18). The aim of occupational therapy in this research was executing a compiled and time program with collected occupational therapy sub- groups and emphasized on juggling and morning gym, music, playing and physical activity which were done according to a time schedule, 5 days a week, two times a day, in morning and afternoon during four weeks by the researcher and experienced therapist on the interventional group in the summer 2002 meanwhile no intervention was done on the control group. After the end of four weeks of occupational therapy in interventional group, the SANS was completed for both interventional and control groups and both results of before and after the occupational therapy were studied and compared. Data analysis was performed by descriptive (average and declination scale) and inferring (T-test, Wilcoxon and Mann-Whitney) statistics methods.

## Results

Research findings showed that the prevalence age of 34% of intervention group and 39% of control group was 6 years. The age range of 25-35 was 46% and 50% for intervention and control group, respectively. Also the percentage of unemployed patients was 50 in intervention and 46 in control group. 40% of intervention group and 35% of control group had an elementary

education and generally the positive experience of family suffered schizophrenia was 78% in intervention and 60% in control group, in the other words at least one of their close relatives had been suffered of this mental disorder. The most abundance of hospitalization in both gender (30% in control and 36% in intervention group) was two and finally it was equal in both single and married patients. About the targets of research ,the findings showed executing the occupational therapy activities in interventional group was considerably effective in reducing the mean scores of negative signs and symptoms of schizophrenia before and after occupational therapy ( $p<0.01$ ) .

Also about this effect on negative symptoms of schizophrenia separately, the findings showed significant difference in the mean marks difference of flat affect ( $p=0.03$ ), mutism ( $p=0.008$ ) Apathy ( $p<0.001$ ), dissocial ( $p=0.001$ ) and loss of attention ( $p=0.02$ ).

The average marks of negative symptoms of schizophrenia in both groups, interventional and control, in the beginning and end of the study has been showed in table 1.

## Discussion

Research findings showed a reduction mean of score in signs and symptoms of schizophrenia like as flat affect, mutism, apathy, dissocial and loss of attention due to occupational therapy until the end of improvement in general condition of the schizophrenias patients. In the study done by Bejerholm and Eklund entitled " Occupational engagement in persons with schizophrenia: relationships to self-related variables, psychopathology, and quality of

**Table 1.** Comparison mean score of negative signs and symptoms of schizophrenia in control and intervention group

Group & Intervention time	Intervention group		Control group		P- Value
	Beginning of the study (before occupational therapy)	The End of the study(after occupational therapy)	Beginning of the study	The End of the study	
Symptoms					
Flat Affect	12.45±6.71	11.13±5.13	21.2±8.72	15.86±6	P = 0.03
Mutism	14.04±4.18	8.13±4.18	12.92±5.28	10.34±3.81	P = 0.008
Apathy	11.31±2.86	6.1±3.04	10.17±3.15	7.93±2.44	P <0.001
Dissocial	13.07±3.02	6.47±3.97	11.65±4.15	8.93±3.69	P = 0.001
Loss of attention	7±2.01	3.56±1.68	6.93±1.89	6.58±1.92	P = 0.02

life", the results showed that to higher ratings of self-related variables, fewer psychiatric symptoms, better ratings of quality of life, and vice versa. The results add a new dimension to understanding mental health and suggest the importance of assessing the level of occupational engagement <sup>(19)</sup>. About the first negative sign, flat affect, Wilkinson et al implied to the effect of drama and movement therapy on provide opportunities for more organized self-expression through the use of metaphor. They describe five ways in which drama and movement therapy may benefit the health and well-being of the elderly: increasing orientation and activity, facilitating reminiscence, increasing self-understanding and acceptance, developing meaningful personal relationships and building communal spirit <sup>(20)</sup>. About the patients' mutism, the researches showed that occupational therapy on patients release and improve their verbal relationship <sup>(21)</sup>.

Relating to the apathy as a negative symptom of schizophrenia, the results of this studies showed that occupational therapy and professional activities in patients ended to a job and education constancy <sup>(22)</sup>.

Besides, Smeijsters and Cleven in their research have implied on the effect of music therapy and movement therapy on lack of contact with own aggressive feelings, avoiding conflicts, unable to regulate aggression, screaming and expressing anger in interaction <sup>(23)</sup>. Codding implied to the effect of music therapy on relaxation, self expression, mood change, emotional development, self-esteem, respect for others, social interaction and adjustment, release of tension and anxiety, anger management, decrease of aggressive behavior, self-control and coping skills <sup>(24)</sup>. In this case, Tracy in her study showed the importance of occupational therapy and group activities on relationship between schizophrenia patients and their desire to be present in group, participate in group activities, making decision and promotion of self-esteem <sup>(25)</sup>. About the last negative symptom, loss of attention, or having no atten-

tion especially in social situations, many studies were done. Among them Prema and Graicy have implied to the effect of occupational therapy on the ability to create, the sense of being worth, increase of self-esteem, return of self-confidence, satisfies the emotional needs like, love acceptance and security through activities, have a feeling of achievement and attention to life are the most important advantages of occupational therapy <sup>(26)</sup>.

So, considering the effectiveness of occupational therapy activities in improvement and also reducing the negative signs of schizophrenias patients, it is suggested to use occupational therapy as medicine therapy's supplementary to improve the treatment and patients' life level .

On the other hand this program can be resulted in reducing the consumption of tranquilizing drugs in this patients and consequently reduces the treatment expenses and more important of all drugs sides effects.

Besides it is expected by transferring the findings of this research to the nurses, Psychiatric nurses, nursing students in psychiatric centers and other medicine science branches which are related to the treatment process, the importance of occupational therapy procedure become clearer than before and makes more attention to this case.

Also it is suggested to the treatment centers' and nursing managers in psychiatric sections to provide an active occupational therapy unit by using appropriate methods and even in clinics where these patients are under their cover and this unit should be managed and executed under the control of the experienced experts .

### Acknowledgements

Great thanks for Mr. seyed Ali seyed ya Hossein, the experienced and compassionate work therapist in Farabi hospital in Isfahan, who dedicate the best years of his life to help the psychiatric patients, and doubtlessly this research could not be done without his friendly assistance.

## References

1. Kooshan M, Vaghei S, Psychiatric nursing. 2<sup>nd</sup> ed. Tehran: Andishe Rafi publication; 2004.
2. Carson V B. Mental health nursing: The Nurse-Patient Journey. 2<sup>nd</sup> ed. USA: Saunders Co; 2000.
3. Vargas ML. The possibilities of neurocognitive rehabilitation in schizophrenia. *Rev Neurol* 2004; 38(5):473-482.
4. Caplan H, Saduck B. Psychiatry abstracts. Trans. Rafei H. Tehran: Salemi publication; 2000, 2<sup>nd</sup> rol.
5. Manfreda M, Krampitz S. psychiatric nursing. Trans Shahriyari T, Golab R. 1<sup>st</sup> ed. Tehran: university publication center. 1990.
6. Isfahan university of medical sciences and Health Services. 2001, year of mental health [pam phlet]. Isfahan: Vice chancellor of health and treatment; 2002.
7. Saduck V, Sadukh B. psychiatry abstracts. Trans. Rafiee h, Sobhaniyan KH. 1<sup>st</sup> ed. Tehran: Arjmand publication; 2003, 2<sup>nd</sup> rol.
8. Grey M. Schizophrenia treatment. *Psychiatric Praxis*. Sep 1999;26(5): 238-47
9. Atkinson J. Occupational therapy. *American Journal of Occupational therapy*. June 2001; 51(6): 453.
10. Buchain PC, Vizzotto AD, Henna NJ, Elkis H. Randomized controlled trial of occupational therapy in patients with treatment-resistant schizophrenia. *Rev Bras Psiquiatr* 2003; 25(1):26-30
11. Langle G, Bayer W, Koster M, Salize HJ, Hohl W, Machleidt W et al. Do the effects of inpatient vocational therapy and ergotherapy approaches differ in schizophrenic patients? Results of a controlled multicenter study of the german research network on schizophrenia. *Psychiatr Prax* 2006; 33(1):34-41.
12. Roder V, Zorn P, Muller D, Brenner HD. Improving recreational, residential, and vocational outcomes for patients with schizophrenia. *Psychiatr Serv* 2001; 52(11):1439-41.
13. Goldenson RM. Disability and rehabilitation hand book. USA: Mc Grawhill; 1978.
14. Fortinash H W. Psychiatric mental health nursing. 2<sup>nd</sup> ed. USA: Mosby Co; 2000.
15. Womble DM. Introductory mental health nursing. 1<sup>st</sup> ed. USA: Lippincott Co; 2005.
16. Ma'asoumi N. Principles of occupational therapy. Proceedings of Congress on Rehabilitation latest findings ; Kia publication ;1996.
17. Segal R, Hinojosa J. The activity setting of homework: an analysis of three cases and implications for occupational therapy. *Am J Occup Ther*. 2006; 60(1): 50-59
19. Bejerholm U, Eklund M. Occupational engagement in persons with schizophrenia: relationships to self-related variables, psychopathology, and quality of life. *Am J Occup The*, 2007; 61(1): 21-32.
20. Wilkinson N et al. drama and movement therapy in dementia: a pilot study. *The Arts in Psychotherapy*, 1998; 25(3): 195-201.
21. Farahani M. Introductory occupation culture. Tehran. Daneshgah publication; 2000.
22. Sharifi M. Principles of occupational therapy. Tehran: Salemi publication; 2000.
23. Smeijsters H, Cleven G. The treatment of aggression using arts therapies in forensic psychiatry: Results of a qualitative inquiry. *The Arts in Psychotherapy*, 2006; 33: 37-58.
24. Coddling PA. A comprehensive survey of music therapists practicing in correctional psychiatry. *Music therapy perspectives*. 2002; 20(2): 56-68.
25. Alizadeh M. Culture of occupation. Tehran: Sepehr publication; 2000.
26. Prema TP, Graicy KF. Principles and Practice of Psychiatric Nursing. 1<sup>st</sup> ed. India: Jaypee Co; 2006.