

The Effects of Occupational Therapy and Psychosocial Interventions on Interpersonal Functioning and Personal and Social Performance Levels of Corresponding Patients

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ABSTRACT

Introduction: In this study, we aimed to investigate the effects of occupational therapy and psychosocial interventions on the interpersonal functioning and individual and social performance levels of corresponding patients under the heading of psychosocial treatment approaches in psychiatry clinics as well as the attitudes of the patients in regard to those interventions.

Methods: In 2013, out of psychotic (schizophrenia, bipolar disorder/mania) and nonpsychotic (depression, obsessive compulsive disorder, alcohol dependence) inpatients in our clinic, 48 patients who participated in occupational activities were included in the study group and 43 patients who did not participate in these activities were included in the control group. We prepared and implemented a 3-item questionnaire constructed by our team, which probed the patients' thoughts on these occupational activities. The Interpersonal Functioning Scale (IFS) and Personal and Social Performance Scale (PSP) were applied to both groups on hospital admission and discharge; variations in scale scores were evaluated on par with sociodemographic variables, and the study and control groups were compared.

Results: In total, 91% of the study group provided positive feedback regarding the aforementioned interventions. When comparing the study and control groups, the IFS variance score of the study group did not

show a significant difference with respect to that of the control group. A statistically significant difference ($p < 0.0001$) was observed in the PSP scores. Evaluation of the PSP of the occupational activities, focusing on sociodemographics and diagnostic labels, revealed a significant improvement in nonpsychotic patients ($p = 0.002$) compared with psychotic patients, in females ($p = 0.001$) compared with males, in unemployed patients ($p = 0.0001$) compared with employed patients, in single patients ($p = 0.002$) compared with married patients, in less-educated patients ($p = 0.004$) compared with high school graduates, and in patients younger than 45 years ($p = 0.002$) compared with those older than 45 years.

Conclusion: The findings of our study showed coherence with the literature regarding similar studies conducted on psychotic subgroups. The results demonstrated significantly positive repercussions, specifically in the treatment of nonpsychotic patients; both groups benefited from occupational activities, as shown by improvements in all psychiatric inpatients' PSP scores in comparison with scores of the control group. We concluded that the recruitment of psychosocial treatment approaches enhanced personal and social performance in the patient groups, thereby leading to additional clinical benefits.

Keywords: Occupational therapy, functioning, performance, psychiatry

INTRODUCTION

Currently, interpersonal relations and individual and social performance are frequently being considered by clinicians in cases of psychological disorders, whether at the diagnosis stage or during treatment. These are now accepted as important parameters of recovery or lack of recovery in the process of treating a patient. For this reason, psychosocial interventions are increasingly being used in treatment protocols alongside classical pharmacotherapy in the treatment of individuals with psychological illnesses in order to correct these parameters.

Psychological disorders are accompanied by difficulties in social life (1), and many researchers have emphasized the relationship between these disorders and social inadequacy (2). The connection between social maladjustment and patients with a diagnosis of psychological disorder has been an object of study (3). Psychological disorders are observed twice as frequently in unemployed people as in those who work (4). It is believed that work is a way of coping and of maintaining social relations for many people with psychological illnesses (5). Social functioning problems occur in patients with a diagnosis of various psychological disorders, such as schizophrenia, mood disorders, and eating disorders (6).

The effects of sociodemographic parameters on personal social functioning have been demonstrated (7). The social function levels of four different diagnosis groups were compared with each other, taking into account relationships with different factors; it was seen that neurotic, stress-related, and somatoform disorders showed a lower level of inadequacy of social function than affective disorders, schizophrenia, and personality and eating disorders (8). In addition, Sanderson and Andrews (7) maintained that the most serious social function inadequacies were mood and anxiety disorders. Rie et al. (9) showed that in personality and eating disorders, social inadequacy was more frequently seen than mood disorders. Simon (6) showed that functionality deteriorated in patients with affective disorders, while in a study by Bilder and



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Received: 20.12.2014 **Accepted:** 03.06.2015

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Mechanic (10), it was asserted that patients with the same diagnosis of psychological disorder showed worse results in all fields of functionality than the general population. Judd et al. (11) related sub-clinical depression symptoms to psychosocial inadequacy. However, there is no consensus supporting a clear relationship between psychiatric diagnosis and functionality. It is very difficult to make a detailed comparison of these topics because of methodological differences. The severity of psychopathological symptoms is genuinely related to social functionality, as supported by many studies (12), and the severity rather than the type of diagnosis has been found to be more related to defects in social functionality (13).

It has been emphasized that it is necessary to consider changes in the functionality of patients in the application of experimental treatments and their responses to such treatments. For this reason, importance has recently been given to therapeutic approaches and applications to increase the functionality of patients during their treatment. In clinics providing treatment services to both inpatients and outpatients, occupational therapies with this aim and similar ways of increasing functionality are increasingly presented as an integral part of treatment.

Occupational therapy as a type of treatment in psychiatry began to be accepted and applied toward the end of the 18th century. In 1793, the French doctor Phillipe Pinel adopted an approach known as "Moral treatment and occupation," and defined occupation as a person's use of time, energy, interest, and attention in relation to his aims. In this way, daily activities began to be applied to the treatment of patients with mental illnesses (14).

The role of the therapist in occupational therapy is at the meeting point between a suitable patient and a suitable activity (15). Account must be taken of patients' preferences, their fields of interest, what they are capable of in their daily routines, self-care, their creativity and how they spend their free time, their strong qualities, their social and physical environment, and the desired aims of the therapy.

In 2004, the World Occupational Therapy Federation defined occupational therapy as follows:

Occupational therapy is a field of specialization securing health and well-being through occupation.

The main aim of occupational therapy is to enable individuals to participate in everyday life.

Occupational therapists achieve this by increasing the individuals' ability to participate in these activities or by changing the environment with the aim of providing support (16).

The World Occupational Therapy Federation has established standards for occupational therapy training and requires a 3 to 4 year course of theoretical and practical study, followed by supervised work (17,18). In Turkey, however, these applications in psychiatric clinics are currently performed by vocational trainers in their relative occupational fields, along with psychiatric specialists or psychologists, on patients in occupational groups while they are in hospital or after they are discharged; the aim is to increase personal and social functionality and skills in psychotic patients. In this framework, positive effects have been observed during the treatment of patients where this has been applied, and positive feedback has been received from patients and those close to them. Even though occupational therapy in Turkey falls short of the World Occupational Therapy Federation's training standards, it has been influenced by those standards.

In a study conducted in Israel, cognitive therapy was added to occupational therapy in the treatment of 58 schizophrenic patients over a period of 12 months, and it was observed that the memory and thought processes of patients who received these therapies showed greater improvement (19). In Britain, a comparison was made between cognitive rehabilitation and occupational therapy, and while both groups showed improvement,

an increase in self-respect was also seen in those who received cognitive therapy (20). In a randomized controlled study in America, a comparison was made between occupational therapy and the acquisition of skills, and the skills development approach showed a clear improvement in terms of living independently from other people (20).

Controlled studies on the effectiveness of occupational therapy have been carried out mostly on psychotic patients, evaluating different fields; however, no controlled studies have been performed on the effects on interpersonal functionality in psychosis and interpersonal functionality and social performance in nonpsychotic psychiatric diseases.

The aim of this study was to contribute to the literature by assessing patients' attitudes to occupational therapy activities as well as their effects on interpersonal functionality and social performance in both psychotic and nonpsychotic psychiatric patients in a controlled study; also, based on the results, we formed an opinion about the necessity for occupational therapists and occupational therapy.

METHODS

This study conforms to the provisions of the internationally accepted 1975 Helsinki Declaration, revised in 2002, and the Regulations on Drug Research of the Turkish Ministry of Health, published in the Official Gazette No 2148 of 29 October 1993, as well as other regulations published later; and has the approval of the Çukurova University School of Medicine Ethics Committee.

Morning meetings on the effectiveness of occupational therapy were held once a week for two hours with patients hospitalized in our clinic who wished to take part; in these meetings, they evaluated manual skills, drawing, sport, and themselves and other patients. Thirty patients were included in the study; the patients had been receiving in-patient treatment of at least two weeks' duration within a three-month period in 2013. Consent forms were obtained from the patients who wished to take part in the study. A total of 48 patients who took part in occupational activities throughout the time they were hospitalized and a control group of 43 patients who did not take part in occupational activities but who gave their approval for the study were recruited into the evaluation. The patients who took part in occupational therapy all joined in drawing, handicraft, sport, and Good Morning meeting activities. When the patients left the hospital, they filled out a questionnaire with three questions, devised by the researchers, which evaluated the occupational approach, asking about the effectiveness of occupational activities on treatment, whether they wanted to take part in such activities after discharge from hospital, and which type of activity they preferred. This questionnaire was not applied to the control group. IFS and PSP were applied to both groups when they entered and left the hospital. Patients were included in the study who were over the age of 18, who had no physical disability to prevent them from taking part in the occupational therapy, and who were diagnosed according to the International Statistical Classification of Diseases and Related Health Problems (ICD-10) as having depressive disorder, bipolar disorder (mania), schizophrenic disorder, obsessive compulsive disorder, or alcohol dependence. Criteria for exclusion were being under the age of 18, not giving consent for the study, having a physical disability hindering occupational activities, and having been hospitalized in the clinic for less than two weeks. The illness groups were random patient groups who had been monitored for three months in the clinic and were not specially selected. The aim of the study was to evaluate the effectiveness on each group of patients in the psychiatric clinic from a general point of view. No particular diagnosis group was focused on in the selection of patients because the improvement in functionality and individual and social performance scores was being compared between degrees of severity rather than between different diagnoses. In the statistical evaluation, however, in addition to the general view, some patients were evaluated as a psychosis group of BPD (mania) and schizophrenia patients; also, a nonpsychosis group of patients diagnosed with depression, OCD, and alcohol dependence, the effects of the occupational activities on these two groups, and the differences in the effects were evaluated.

Interpersonal Functionality Scale (IFS): This scale has subscales, which require judgment of an individual's overall social role; provide a quantitative evaluation of role functions, basic competence, and social behavior; and can be applied to patient groups with basic psychiatric disorders. The scale consists of four items. In the evaluation, items 1 and 2 are scored with a total from 0 to 3. The other two items carry 0 to 3 points each. The lowest possible score is 0, and the highest possible score is 9. The scale can be completed either by the patients or by someone close to them. The social standards of the scale have not been calculated, and it is used in comparative studies. The original name of this scale is The Social Functioning Scale. It was devised by Birchwood et al. (21) and was adapted to Turkish by Erakay (22).

Personal and Social Performance Scale (PSP): On this scale, a score of 1 to 100 is given for individual and social functionality to patients with severe mental disorders, with a high score denoting good functionality. In this general evaluation, the level of functionality is determined with an evaluation in four dimensions and six ranks. These four dimensions are socially beneficial activities, individual and social relations, self-care, and disturbing and aggressive behaviors. The scale was devised by Morosini et al. (23) Validity and reliability studies were conducted on the Turkish form by Aydemir et al. (24).

Statistical Analysis

All statistical evaluation in the study was performed using the Statistical Package for Social Sciences version 20 (SPSS IBM Statistics Corporation, New York, USA), English version. Chi-square and, where necessary, Fisher exact chi-square tests were used for the comparison of categorical variables, frequencies and proportions. For comparisons of mean values of continuous two-group variables, Student's t test was used. The Pearson correlation test was used to correlate categorical variables. Sociodemographic data and related descriptive statistics are also presented.

RESULTS

Table 1 shows the sociodemographic characteristics of the patients included in the study. The study and control groups had a balanced distribution with regard to gender, diagnosis, and other sociodemographic characteristics. Although a specific diagnosis group was not focused on, both groups contained patients with a diagnosis of depression: 60.4% of the study group and 51.16% of the control group. This was followed by patients with psychosis and mania.

The results of the questionnaire evaluating the attitudes of the study group toward the occupational activities showed that 91.66% of the patients stated that occupational activities made a contribution to their treatment, and 81.25% expressed a wish to participate in such activities after discharge from hospital (Table 2). The most liked occupational activity was sport, with 35.4%; second, with 29.16%, was the total of the occupational activities (Table 3).

The mean IFS and PSP scores of the study group before and after participation in the occupational activities were compared, and the level of increase on both of these scales was found to be statistically significant ($p < 0.001$ for IFS and $p < 0.0001$ for PSP). For the control group, there was no significant difference between the IFS scores at admission and discharge; however, a significant difference was found in the PSP value ($p < 0.0001$) (Table 4).

When the study group and the control group were compared, it was found that there was no significant difference in the changes in IFS score of the study group compared to the control group; however, there was a significant difference in the PSP values ($p < 0.0001$) (Table 5).

When the sociodemographic characteristics of the study group and the control group were taken into consideration and the pre- and post-treatment mean score differences were compared for both IFS and PSP, significant differences from the control group were found in IFS only in the female patient group ($p = 0.022$) and in the nonworking patient group ($p = 0.04$) (Table 6).

In PSP, significant differences were observed only in the male patient group ($p = 0.087$) and in the working patient group ($p = 0.177$). In groups where a significant difference was found, much greater significant differences were found in female patients than in males ($p = 0.001$), in those not working than in those working ($p = 0.0001$), in those who were single than in those who were married ($p = 0.002$), in those educated to less than high school level than in those educated to a higher level ($p = 0.004$), in the neurosis group than in the psychosis group ($p = 0.002$), and in those under the age of 45 than in those over 45 ($p = 0.002$) (Table 7).

In the comparison of the sociodemographic characteristics in the diagnosis groups, in IFS, no significant differences were found between the study group and the control group in all sociodemographic groups in both diagnosis groups (Table 8). In PSP, a significant difference was found in the unmarried and psychosis groups compared to the control group ($p = 0.021$), while in the non-psychotic patient group, significant differences were found in the female group ($p = 0.005$), those who were married ($p = 0.026$), at all educational levels, but especially in those educated to less than high school level ($p = 0.007$), and in the group of patients who were not working ($p = 0.001$) (Table 9).

In addition, the correlation between differences in IFS and PSP scores in the study group and age difference was examined, and no relationship was found ($r = 0.01$, $p = 0.94$ for IFS; $r = 0.031$, $p = 0.835$ for PSP). Further, no relationship was found in the control group ($r = -0.038$, $p = 0.811$ for IFS; $r = -0.223$, $p = 0.15$ for PSP).

Table 1. Sociodemographic features of the study and control groups

	Study group n (%)	Control group n (%)
Number of patients	48	43
Gender		
Female	22 (45.8)	28 (65.1)
Male	26 (54.2)	15 (34.9)
Diagnosis		
Depression	29 (60.4)	22 (51.17)
BPD (mania)	6 (12.5)	10 (23.25)
Schizophrenia	9 (18.75)	8 (18.6)
OCD	1 (2.1)	2 (4.65)
Alcohol dependence	3 (6.25)	1 (2.33)
Diagnostic group		
Psychosis	15 (31.25)	18 (41.86)
Nonpsychosis	33 (68.75)	25 (58.14)
Age		
≤45 years	40 (83.3)	32 (74.4)
>45 years	8 (16.7)	11 (25.6)
Marital status		
Married	24 (50)	19 (44.2)
Unmarried	24 (50)	24 (55.8)
Duration of education		
Less than high school	17 (35.4)	16 (37.2)
High school and longer	31 (64.1)	27 (62.8)
Work		
Employed	16 (33.3)	16 (37.2)
Unemployed	32 (66.7)	27 (62.8)

N: number of patients; BPD: bipolar disorder; OCD: obsessive compulsive disorder

DISCUSSION

In the present study, we assessed the effectiveness of occupational activities under the heading of pharmacotherapy combined with psychosocial approaches during the treatment process and of the attitudes of patient groups to this treatment method. No information was found in the literature about patient attitudes to this treatment method. It may be predicted that positive feedback would be obtained because psychosocial interventions contribute to the daily activities of hospitalized patients and help to fill their time and make it more productive and because the treatment process is more dynamic and more participatory; our results were similar to this. Because the control group did not participate in the activities, their views on the applications were not included in the assessment. However, 91.66% of patients who participated in the application stated that occupational activities contributed to their treatment. This proportion was found to be 93.3% in the psychosis group and 90.9% in the neurosis group. Moreover, 81.25% to 73.3% of patients in the psychosis group and 84.84% of patients in the neurosis group said that they would like to participate in these activities after

discharge (Table 2). These findings show that a large proportion of hospitalized patients, irrespective of their diagnosis group, would like to participate in this kind of activity. An additional inference can be made that this kind of activity not only helps patients to make use of their free time during treatment but also may increase their conformity to treatment.

Psychosocial approaches are understood as the inclusion of an individual's social environment in treatment other than pharmacotherapy (25). The combination of the therapist, patient, and activity forms a suitable ground for learning and the use of competence. In this way, in the development of social interactions, exceptional results, and creativity may occur (26). In our study, the activities were not conducted by qualified occupational therapists but by professional experts in the field of activity as well as by psychiatrists and psychiatric nurses. Therefore, the activities conducted were taken not as occupational therapy but as social occupational activities.

In scans of the literature, it was observed that the effects of occupational therapy and this psychosocial approach had been investigated in psychotic patients; controlled experiments have been carried out on patients of this type. Even though our diagnosis groups were limited and formed at random, our study included patients with psychosis and neurosis, and the effectiveness of occupational activities was studied in both of these diagnosis groups.

In the treatment of schizophrenic patients, it is well established that along with pharmacological treatment, psychotherapy, family therapy, and occupational therapy are very effective strategies. However, the effectiveness of psychosocial approaches such as occupational therapy has not been proven

Table 2. Approach of the study group to the occupational activities

	Total n	Positive opinion towards the treatment n (%)	Wish to continue the activity after discharge n (%)
Diagnosis			
Depression	29	26 (89.65)	24 (82.75)
Schizophrenia	9	9 (100)	6 (66.6)
BPD (mania)	6	5 (83.33)	5 (83.33)
OCD	1	1 (100)	1 (100)
Alcohol dependence	3	3 (100)	3 (100)
Diagnostic group			
Psychosis	15	14 (93.3)	11 (73.3)
Nonpsychosis	33	30 (90.9)	28 (84.84)
Total	48	44 (91.66)	39 (81.25)

N: number of patients; BPD: bipolar disorder; OCD: obsessive compulsive disorder

Table 5. Comparison of changes in IFS and PSP scale scores between the study and control groups

	Study group n (Median±SD)	Control group n (Median±SD)	p
IFS	48 (1.04±1.99)	43 (0.46±1.57)	0.133
PSP	48 (25.4±13.9)	43 (15.4±10.1)	<0.0001

N: number of patients; IFS: Interpersonal Functionality Scale; PSP: Personal and Social Performance Scale; SD: standard deviation

Table 3. Preferred activity choices of the diagnosis groups

	Number of patients	Painting course	Manual skills course	Sports	Morning meetings	All	None
Diagnosis							
Depression	29	4	3	10	5	7	0
Schizophrenia	9	0	2	3	0	3	1
BPD (mania)	6	0	1	2	0	2	1
OCD	1	0	0	0	0	1	0
Alcohol dependence	3	0	0	2	0	1	0
Total, n (%)	48	4 (8.33)	6 (12.5)	17 (35.4)	5 (10.4)	14 (29.16)	2 (4.16)

N: number of patients; BPD: bipolar disorder; OCD: obsessive compulsive disorder

Table 4. Changes in IFS and PSP scale scores in the study and control groups

	Study group (Median±SD)			Control group (Median±SD)		
	Before practice	After practice	p	Before hospitalization	After hospitalization	p
KiÖ	2.23±0.32	2.10±0.30	<0.001	1.82±0.27	1.60±0.24	0.06
PSP	50.3±13.1	75.7±12.4	<0.0001	11.4±1.74	14.6±2.22	<0.0001

IFS: Interpersonal Functionality Scale; PSP: Personal and Social Performance Scale; SD: standard deviation

Table 6. Comparison of changes in IFS scale scores in the study and control groups according to sociodemographic features

	Study group n (Median±SD)	Control group n (Median±SD)	p
Gender			
Female	22 (1.63±2.27)	28 (0.35±1.52)	0.022
Male	26 (0.53±1.60)	15 (0.66±1.71)	0.812
Marital status			
Married	24 (1.25±2.09)	19 (1.00±1.41)	0.658
Unmarried	24 (0.83±1.19)	24 (0.04±1.60)	0.128
Education status			
Less than high school	17 (1.35±2.49)	16 (0.81±1.10)	0.433
High school and longer	31 (0.87±1.68)	27 (0.25±1.78)	0.186
Diagnosis			
Psychosis	15 (0.60±1.35)	18 (0.00±1.71)	0.280
Nonpsychosis	33 (1.24±2.22)	25 (0.80±1.41)	0.388
Work			
Employed	16 (0.68±2.08)	16 (0.87±1.45)	0.770
Unemployed	32 (1.21±1.96)	27 (0.22±1.68)	0.04
Age			
≤45 years	40 (0.97±2.15)	32 (0.40±1.45)	1.6
>45 years	8 (0.91±0.32)	11 (1.96±0.59)	0.339
N: number of patients; IFS: Interpersonal Functionality Scale; SD: standard deviation			

against pharmacological treatments alone for resistant schizophrenia. Occupational therapy along with clozapine has been found to be more effective than clozapine alone. For this reason, occupational therapy should be considered in treatment-resistant schizophrenia (27). Some writers have claimed that the use of psychosocial approaches along with antipsychotics is effective for resistant schizophrenia (28). No controlled studies have been made of the effects of psychosocial approaches added to pharmacological treatment, apart from cognitive behavioral therapy. However, clinical studies have often made use of occupational therapy (29). It is suggested that in the treatment of schizophrenia, certain specific occupational therapy skills should be learned in a therapeutic environment and should continue to be developed outside the hospital in a pedagogical direction (26).

It was shown in a study by Buchain et al. (27) that occupational therapy in five-year schizophrenic patients resulted in improvement, especially in interpersonal relations and professional performance. At the same time, it was observed that occupational therapy created a therapeutic environment and resulted in improvement over a long period. It is known that there are specific defects in executive functions in schizophrenia. These are known as negative symptoms. In treatment-resistant schizophrenia, negative symptoms are more clearly observed (30). In the study by Buchain et al. (27), it was claimed that the addition of occupational therapy to routine treatment resulted in an improvement in executive functions. However, the sample group in the study was small; therefore, it is difficult to make a definite judgment. The lack of a significant difference in IFS increase compared with the control group found in our study is different from that of the study by Buchain et al.

In a controlled study by Cook et al. (31) on the effectiveness of occupational therapy given individually to psychosis group patients in a social mental health center, a social functionality scale was used and the lev-

Table 7. Comparison of changes in PSP scale scores in the study and control groups according to sociodemographic features

	Study group n (Median±SD)	Control group n (Median±SD)	p
Gender			
Female	22 (25.9±13.7)	28 (14.4±9.16)	<0.001
Male	26 (25.0±14.4)	15 (17.3±11.6)	0.087
Marital status			
Married	24 (26.1±15.2)	19 (17.2±11.2)	0.039
Unmarried	24 (24.8±12.8)	24 (14.1±9.04)	0.002
Education status			
Less than high school	17 (28.5±12.9)	16 (16.5±8.31)	0.004
High school and longer	31 (23.7±14.4)	27 (14.8±11.1)	0.012
Diagnosis			
Psychosis	15 (27.6±16.1)	18 (16.6±11.1)	0.027
Nonpsychosis	33 (24±13.1)	25 (14.6±9.34)	0.002
Work			
Employed	16 (24.7±15.3)	16 (17.8±12.6)	0.177
Unemployed	32 (25.8±13.5)	27 (14.1±8.09)	<0.0001
Age			
≤45 years	40 (26.2±15.1)	32 (18.5±9.70)	0.002
>45 years	8 (21.2±5.82)	11 (12.2±10.8)	0.049
N: number of patients; PSP: Personal and Social Performance Scale; SD: standard deviation			

el of negative symptoms was examined; it was suggested that individual occupational therapy could contribute to recovery. This study used an experimental group of 30 patients and a control group of 14 patients. In each group, improvements were seen in social functionality and negative symptoms; however, no clear difference was seen between the groups. In our study, there was a significant increase in scores on the individual and social performance scale in the psychosis group of patients in comparison with the control group, although not in interpersonal functionality.

In our study, patients with diagnoses of manic attacks or schizophrenic defects were evaluated as the psychosis group. In this group, when the increase in IFS in the study group was compared with the control group, no significant difference was found (Table 6). However, when the sociodemographic characteristics of the study and control groups were examined, a significant difference was found between females and those not working, as well as males and those working (Table 5). Regarding the increase in PSP, significant differences were found compared with the control group, particularly to a greater extent between the nonpsychosis group and the psychosis group, female patients and male patients, those not working and those working, single people and married people, those educated below high school level and those educated to a higher level, and those under 45 and those above 45 years of age.

Females in our study showed a more significant improvement than males compared to the control group with occupational activities both in interpersonal functionality and in social performance. This result is similar to a study by Sanderson and Andrews (7), in which it was reported that females had a more advantageous pattern of functionality.

Melle et al. (32) showed that male gender and a higher education level supported well-being in functionality. In our study, it was concluded that although there

Table 8. Comparison of changes in the IFS scale scores of psychotic and nonpsychotic patients with regard to sociodemographic features in the study and control groups

	Psychosis			Nonpsychosis		
	Study group n (Median±SD)	Control group n (Median±SD)	p	Study group n (Median±SD)	Control group n (Median±SD)	p
Gender						
Female	3 (1±1)	10 (0.40±1.07)	0.07	19 (1.73±2.42)	18 (0.77±1.59)	0.166
Male	12 (0.56±1.44)	8 (0.50±2.21)	1	14 (0.57±1.78)	7 (0.85±0.89)	0.697
Marrital status						
Married	4 (0.56±0.57)	3 (1.66±2.88)	0.58	20 (1.40±2.25)	16 (0.87±0.8)	0.400
Unmarried	11 (0.63±1.56)	15 (-0.33±1.29)	0.097	13 (1±2.23)	9 (0.66±1.93)	0.721
Education status						
Less than high school	5 (0.2±1.64)	3 (0.0±0)	0.845	12 (2±2.55)	13 (1±1.15)	0.214
High school and longer	10 (1±1.05)	15 (0±1.88)	0.143	21 (0.8±1.93)	12 (0.58±1.67)	2.738
Work						
Employed	7 (0.57±0.78)	9 (0.66±1.80)	0.899	9 (0.77±2.77)	7 (1.14±0.89)	0.744
Unemployed	8 (0.62±1.76)	9 (0.66±1.41)	0.115	24 (1.41±2.01)	18 (0.66±1.57)	0.199

N: number of patients; IFS: Interpersonal Functionality Scale; SD: standard deviation

Table 9. Comparison of the changes in PSP scale scores of psychotic and nonpsychotic patients with regard to sociodemographic features in the study and control groups

	Psychosis			Nonpsychosis		
	Study group n (Median±SD)	Control group n (Median±SD)	p	Study group n (Median±SD)	Control group n (Median±SD)	p
Gender						
Female	3 (28.3±30.1)	10 (13.5±7.09)	0.684	19 (25.5±10.99)	18 (15.0±10.3)	0.005
Male	12 (27.5±12.7)	8 (20.6±14.5)	0.273	14 (27.8±15.8)	7 (13.5±6.9)	0.160
Marital status						
Married	4 (37.5±1.3)	3 (28.3±10.4)	0.599	20 (23.7±11.8)	16 (15.0±10.3)	0.026
Unmarried	11 (24.1±9.95)	15 (14.33±9.97)	0.021	13 (25.3±15.3)	9 (13.8±7.81)	0.053
Education status						
Less than high school	5 (30.0±18.3)	3 (18.3±5.77)	0.333	12 (27.9±10.9)	13 (16.1±8.93)	0.007
High school or longer	10 (36.5±15.1)	15 (16.3±12.1)	0.079	21 (22.3±14.1)	12 (12.9±9.87)	0.048
Work						
Employed	7 (30.7±14.5)	9 (18.8±14.5)	0.129	9 (20.0±15.6)	7 (16.4±10.7)	0.603
Unemployed	8 (25.0±17.7)	9 (14.4±6.34)	0.115	24 (26.1±12.2)	18 (13.9±9.00)	0.001

N: number of patients; PSP: Personal and Social Performance Scale; SD: standard deviation

was no significant difference in psychotic patients compared with the control group, females derived greater benefit in interpersonal functionality than males from occupational activities, while males benefitted more in terms of individual and social performance. However, the conclusion that patients with a lower level of education derived less benefit from occupational applications in terms of interpersonal functionality and individual and social performance than those educated to a higher level was in partial agreement with this study.

Rymaszewska and Mazurek (8) stated that single people showed poorer functionality than those with partners, and while those with schizophrenic disorders showed the worst functionality in outpatient centers, those with somatoform disorders showed the best functionality. To this it can

be added that in our study, single people showed a more significant improvement with occupational activities than those with partners in terms of individual and social performance if not in interpersonal functionality and that patients in the neurosis group derived significantly more benefit from occupational activities in terms of increasing their individual and social performance than the psychosis group.

The following are the limitations of the study: those applying the occupational therapy did not receive occupational therapist supervision training; the occupational activities were not planned according to the personal skills and preferences of the patients; the occupations were applied only when the patients were hospitalized, and for this reason, the application period was limited.

Studies have been conducted investigating the effects of occupational therapy on physical illnesses, disabilities, dementia and psychiatric illnesses. The parameters examined in these studies were varied, and the results were positive or negative according to the expected effect. In a study performed in a care home, mobility and independence were evaluated, and it was found that three months of occupational therapy did not cause an improvement in these parameters (33). On the other hand, significantly positive effects have been reported in studies on schizophrenia patients for parameters such as functionality, family satisfaction, and socialization (27,31).

Most studies on this topic have been carried out on schizophrenia patients, and various areas have been evaluated by various methods in these studies. In spite of these differences, results have shown that psychosocial approaches in different fields and by different methods have been beneficial in many areas in the treatment of patients. In our study, psychosocial treatment approaches such as occupation in a controlled study have resulted in a significant increase in individual and social performance values, if not in interpersonal functionality, in both psychotic and nonpsychotic patient groups, which supports this view. In light of these results, the acceptance of occupational and similar psychosocial interventions in the treatment of patients in psychiatric clinics as important components of treatment, and performing these interventions along with other treatments, will increase the recovery of patients' individual and social performance.

Ethics Committee Approval: Ethics committee approval was received for this study from the ethics committee of Çukurova University School of Medicine.

Informed Consent: Written informed consent was obtained from patients who participated in this study.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept – S.Ç., H.S., S.Ö.; Design – S.Ç., L.T.; Supervision – L.T.; Resources – S.Ç., H.S., S.Ö.; L.T.; Materials – S.Ç., L.T.; Data Collection and/or Processing – S.Ç., H.S., S.Ö.; Analysis and/or Interpretation – S.Ç., L.T., U.B., S.Ö.; Literature Search – L.T., S.Ç., U.B.; Writing Manuscript – S.Ç., U.B.; Critical Review – L.T.; Other – S.Ç., H.S., U.B., S.Ö.

Conflict of Interest: No conflict of interest was declared by the authors.

Financial Disclosure: The authors declared that this study has received no financial support.

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