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A Community Based Treatment: Impact of Social Skills Training Program on Improving Social Skills among Schizophrenic Patients

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Abstract: One of the hallmarks of schizophrenia is impairment in social functioning. A large body of research supports the effectiveness of social skills training in integrating the schizophrenic patients into the community. So, we aimed to investigate the effectiveness of a constructed social skills training program on improving social skills among schizophrenic patients. The study was based on a controlled design (experimental) including randomization to treatment groups, blind assessments and stable pharmacological treatment. Patients were recruited from patients attending the two (males and females) inpatient psychiatric wards located in Alfehais Mental Health Hospital, Ministry of Health, Jordan. A pre and post Behavioral Observation Assessment Sheet was utilized to collect data. The training program was divided into two parts: conversational and assertiveness skills training. The results revealed that there was a significant difference between pre and post assessment data of experimental group as regarding all items of psychosocial skills training $P > 0.05$. The study indicated the effectiveness of social skills training program in improving the social skills of the experimental group and has implications to its importance for schizophrenics, as it should be run as a routine care like medications and other therapies.

Key words: Social Skills · Schizophrenic Patients · Community Based Program

INTRODUCTION

As the majority of treatment for schizophrenia has become community based, a barrier faced by many clients as they attempt a higher quality of life is social integration. Social skill deficits are a pervasive developmental issue among schizophrenics', yet this has only been addressed peripherally as opposed intensively to existing community rehabilitation programs [1, 2]. The community-based, informal interactions help them to adapt their behaviors to their unique and specific environments, practice and implement the skills that they have adapted in the clinical setting [3].

Schizophrenia is one of the most chronic and disabling serious mental illness. According to the National Institute of Mental Health [4], schizophrenia is relatively common, affecting 1.1% of the population or around 65 million people worldwide. Impaired social functioning is a fundamental characteristic and one of the diagnostic features of schizophrenia [5-7]. There is a strong evidence to suggest that schizophrenic patients have social maladjustment and show social deficits even in remission [8, 9].

In this respect, the key role of effective communication in obtaining one's needs for normal community functioning, social competence is essential for a satisfactory quality of life. "Social competence" can be defined as the "ability to achieve legitimate, personally relevant goals" through interacting with others in all situations: work, school, home and neighborhood, recreation, shopping and consumer services, medical and mental care and social and legal agencies [10]. In contrast, "social skills" represent the "constituent behaviors" which, when combined in appropriate sequences and used with others in appropriate ways and places, enable an individual to have the success in daily living reflected by social competence [11].

Strategies for improving the social functioning of persons with schizophrenia and the capacity to manage one's own psychiatric illness, have been the focus of much research in recent years. Interventions for teaching skills aimed at improving social functioning as well as research on enhancing the ability of clients to participate more actively in the management of their own treatment are being actively pursued [12, 13]. In addition to the fact that problems in social functioning are used to define

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persons with severe mental disorders, there are two other reasons for focusing on social functioning in community-based interventions. First, poor social functioning, including the frequency of social contacts, has repeatedly been found to be an important predictor of relapses and re hospitalizations in schizophrenia [14-19]. This suggests that improvements in social functioning may also influence other areas of functioning, resulting in a better course of illness. Second, social adjustment, including the capacity to enjoy interpersonal relationships and meet social expectations, may be viewed as a dimension of quality of life that is important to address in its own right.

Social skills training has emerged over the past 30 years as a widely used psychiatric rehabilitation technology for teaching individuals the specific skills necessary for achieving instrumental and affiliated goals. Psychosocial skills training refers to a class of treatment interventions that uses methods and principles derived from social learning theories to train (or retrain) motor and interpersonal skills and competencies [20]. In social skills training program the complex behaviors are analyzed and broken down into a smaller set of discrete behavioral elements that are then trained using various core behavioral techniques. These techniques include problem or skill specification, didactic instruction, modeling, role-play or behavioral rehearsal, coaching, feedback, verbal reinforcement, generalization training and homework. Specific interventions may not use all these techniques, but, in general, interventions that are considered social skills training will use at least some of them. Benton and Schroeder 1990 define social skills training as an intervention using three or more of these methods [21].

The basic premise of social skills training is that complex interpersonal skills involve the smooth integration of a combination of simpler behaviors, including nonverbal behaviors (e.g., facial expression, eye contact); paralinguistic features (e.g., voice loudness and affect); verbal content (i.e., the appropriateness of what is said); and interactive balance (e.g., response latency, amount of time talking). These specific skills can be systematically taught and, through the process of shaping (i.e., rewarding successive approximations toward the target behavior), complex behavioral repertoires can be acquired. Spence [22] categorized social skills into three skill elements: non-verbal, verbal and conversational skills. Non-verbal skills include body posture, gestures, or physical proximity. Verbal skills include tone, pitch and volume. Conversational skills refer to skills of initiating, maintaining and ending a conversation [23, 24].

A large and growing body of research supports the efficacy and effectiveness of social skills training for schizophrenia. When the type and frequency of training is linked to the phase of the disorder, patients can learn and retain a wide variety of social and independent living skills. Generalization of the skills for use in everyday life occurs when patients are provided with opportunities, encouragement and reinforcement for practicing the skills in relevant situations [25, 26].

The rationale for the use of social skills training in schizophrenia is based on multiple conceptual and empirical sources. Social skills and social competence can be viewed as protective factors in the vulnerability stress protective factors model of schizophrenia [27]. Strengthening the social skills and competence of individuals with schizophrenia can, along with other evidence-based services, attenuate and compensate for the noxious effects of cognitive deficits, neurobiological vulnerability, stressful events and social maladjustment. Coping skills and social competence confer not only protection against stress-induced relapse but also resilience, interpersonal supports, social affiliation and improved quality of life.

It is not surprising that among a large sample of over 2000 patients with schizophrenia, there was a significant correlation between attributes that reflected social competence, good psychosocial functioning and having confidants and subjective reports of high levels of life satisfaction [28]. EL-Sayed [29] conducted a study to evaluate the impact of social skills training on behaviors of chronic schizophrenic patients at El-Maamoura hospital for Psychiatric Medicine in Alexandria, Egypt. She found that social skills training is effective and bring about significant improvements in patients social behavior. In Jordan, due to the paucity of rehabilitative services, schizophrenic patients may exhibit disabilities in communicational and assertiveness skills which make them less likely to live independently and much more likely to reside in psychiatric hospitals. As a trial to extend the scope of previous researches in this area and developing the independent behaviors among schizophrenic patients, the current study was designed to determine the effectiveness of a constructed social skills training program on improving social skills among schizophrenic patients.

MATERIALS AND METHODS

An experimental design was utilized in this study and an equivalent control group was used to examine the effects of the social skills training program on the social skills of patients with chronic schizophrenia.

Participants: The study was based on a controlled design including randomization to treatment groups, blind assessments and stable pharmacological treatment. Sample was recruited among patients attending the two (males and females) inpatient psychiatric wards located in Alfehais Mental Health Hospital, Ministry of Health, Jordan. All the subjects in this study were selected according to the following criteria: Fulfilling DSM IV diagnostic criteria for schizophrenic disorders. Their age ranged between 18-55 years, educated (at least read and write) and they were on their biological treatment (medication; and electro convulsive therapy) with absence of any possible neurological disorders.

The study sample consisted of 40 males and female schizophrenic patients. Twenty patients were randomized to the experimental program of "social skills training" (SST), they received the program of behavioral interventions for a period of 6 weeks, twice weekly meeting sessions for a period of 45-60 minutes for each. This group was divided into subgroups of 6-8 patients of each one. These small sized subgroups allowed for more accurate observation and training for patients in the group during sessions. The other twenty were assigned to the control group which wasn't subjected to any intervention of behavioral intervention and they received the usual routine care provided in the inpatient department. The two groups of patients did not differ at the baseline on psychopathology, neurocognitive and personal/social functioning.

The Socio Demographic and Personal Characteristics of Experimental and Control Groups: Regarding sex, two-third 60% of experimental group were males while 40% were females compared with 80% males and 20% were females in control group. Concerning the age and the educational level of both groups they were similar as 30% of both sample groups were in the age group 18-28 years and in secondary level, about half of the sample 45% were in age group 29-40 years and highly educated while only 25% were in age group 41-50 years and in primary level of education. Concerning the marital status of both groups, the majority of the sample had never married and 55 % were diagnosed with paranoid schizophrenia compared with 20% undifferentiated and the remaining was disorganized and residual schizophrenia.

As regard the characteristics of illness, the average duration of illness was 10 years, ranging from 1 to 20 years and the average total period of the hospitalizations rate was 7 years, with the majority 85% of both groups were in drug therapy while only 15% were in drug and ECT therapy.

Measurements: Social skills were measured by using a Behavioral Observation Assessment Sheet (BOAS) developed by Omar [31]. The Arabic version of BOAS proved to be valid. It was also reliable using a test -retest method (r = .77) as it was established by the same researcher in his study in 1993 for the conduction of his doctorate thesis. The observational sheet covering 3 groups of social skills as follows: Conversation skills: They include initiation and maintaining of conversation skills meaning the ability of the person to initiate a conversation with others and continue in conversation using the following skills: -giving information, asking question and listening. Ending conversation skills, the ability of the individual to terminate conversation properly are also included.

Special Problem Situation: It measures the assertive skills through using a hypothetical stress provoking situation developed by the researcher and frequently experienced by the patients in their daily hospital living. Assertion has 2 forms; Negative assertion which involves expression of negative feelings, standing up for one's right, requesting new behaviors from others and negotiating and reaching to a compromise. Commendatory or positive assertive skills involve expression of positive emotions, affection appreciation and agreement, compliant and praise and rationalization for maladaptive behavior.

Social Perception Skill: It involves accurate response latency, ability to understand the nonverbal elements and presence of nonverbal elements which include: eye contact, facial expression, voice intonation and volume smiles, head nodes and saying yes or hah? Each item included in the sheet rated in a scale from 0 to 10 and the performance of the skills was rated as following: Weak performance rated from (0-3). Moderate performance rated from (4-6). Good performance rated from (7-10). These instructions were written in the observation sheet to guide the observer in his observation [31]. After ensuring the validity of the tool, pilot study was carried out on 10 hospitalized schizophrenic patients to ensure the reliability and relevance of the observational sheet to the behavioral skill deficit of schizophrenic patients. Ethical considerations:

An official permission was taken, from the director of Alfehais Mental Health Hospital, Ministry of Health, Jordan to conduct this study. The purpose and the nature of the study were explained to the hospital staff and to the subjects to gain their oral commitment and cooperation.

Description of the Techniques Used in Social Skills Training Program: The social skills training program was based on the modules developed by Bellack *et al.* [32] and Liberman *et al.* [33]. The training program was divided into two parts: conversational skills and assertiveness skills. The conversational skills training included both verbal and nonverbal communication skills and the following exercises were employed in this order: explanation, demonstration, role play, feedback, reinforcement and homework exercise.

The assertiveness skills' training included expressing feelings and needs and rights in an interpersonal context and the patients were trained by using a set of hypothetical stressful situations developed by the researcher as experienced by the patients inside and outside the hospital. It was focused on identifying the problem, defining goals, generating alternatives, weighing the advantages and disadvantages of each alternative, choosing a reasonable option, developing an implementation plan and evaluating and rewarding progress.

Each training session began by breaking down complex social behaviors into smaller portions. Next, we arranged these smaller parts in order of difficulty and gradually introduced them to the patients. Participants acquire skills by identifying the key points necessary to be a good person and screen out those inappropriate behaviors, through demonstration and modeling. Role-play exercises were also used as a media for behavior rehearsal and feedback. At the end of the session, homework assignment was given for generalization of skills to their daily situations. Positive gain was identified and evaluated again through post assessment that was done by the researcher for all subjects including control and experimental groups.

Statistical Analysis: Data were analyzed using SPSS for Windows 18.0. A probability level of 0.05 was established to determine statistical significance. Analysis of covariance (ANOVA) was used to compare the differences between the groups' outcomes at pre test and post test while controlling for covariates. Also, t test was used to determine the homogeneity of the demographic and illness characteristics between the experimental group and the control group.

RESULTS

Table 1 shows that there was only a significant difference between mean of experimental group 5.35or 4.5 and mean of control group 3.55 regarding the psychosocial skill of refusing unreasonable request $t = 2.009$ and there were no statistically significant differences among the rest of the variables of psychosocial skills($P > 0.05$).

Figure 1 represents the comparison between pre and post assessment of experimental group in relation to improvement of psychosocial skills. As the patients of experimental group were improved significantly in acquiring social skills of making speech response, giving information, asking questions, ending conversation and smiles, t=-19.4,-15.6,-14.9,-14.1 and -14.03 respectively.

The result showed also that there was a highly significant difference between pre and post assessment in relation to improving psychosocial skills of providing appreciation and praise, initiating conversation, showing affection with others, understanding the nonverbal element of communication conveyed through facial expressions and controlling the voice intonation and loudness, t=-13.6, -12.01, -11.8, -11.1, respectively. It was observed that the least significant differences between pre and post assessment of expo Group were reported in social skills of apologizing and providing rationalization and refusing the unreasonable request, t = -6.3 and -7.1 respectively. On the other hand, there was an equal significant difference (t =-7.3) between pre and post assessment of experimental group in relation to improvement of expressing and responding to anger and requesting new behavior from others of the negative assertive skills. Indeed, there was statistical significant differences between pre and post assessment of experimental group in relation to the improvement of the rest of variables of psychosocial skills ($P<0.05$).

Figure 2 represents the comparison between pre and post assessment of control group in relation to improvement of psychosocial skills. As the results displayed that there were no significant statistical differences between pre and post assessment of control group regarding improvement in psychosocial skills except the item of negative assertive skill of refusing

Table 1: Difference between experimental and control group characteristics before intervention program related to psychosocial skills assessment

Variable	Experimental group's mean	Control group's mean	The value of (t)
Initiating conversation	4.10	4.10	0.000
Giving information	3.75	4.05	0.556
Asking question	3.55	3.55	0.000
Listening	3.90	4.45	0.846
Ending conversation	3.35	3.60	0.494
Appreciation and praise	4.05	3.60	-1.008
Affection with others	4.30	4.25	-.067
Apologizing and rationalizing	4.90	5.20	0.361
Expressing and responding to anger	4.15	5.00	1.116
Negotiating and reaching Compromise.	3.90	3.55	-.545
Requesting new behavior	3.00	3.20	0.280
Expressing and responding to comp	3.25	3.55	.437
Refusing unreasonable request	5.35	3.55	-2.099*
Response latency	3.45	3.15	-.554
Understand non verbal expression	4.00	3.60	-.793
Facial expression	4.10	4.05	-.121
Eye contact	4.05	4.75	1.388
Voice intonation and loudness	4.60	5.10	0.953
Smiles	4.15	4.50	0.558
Speech response	3.35	3.85	1.033

Significant at 0.05 levels

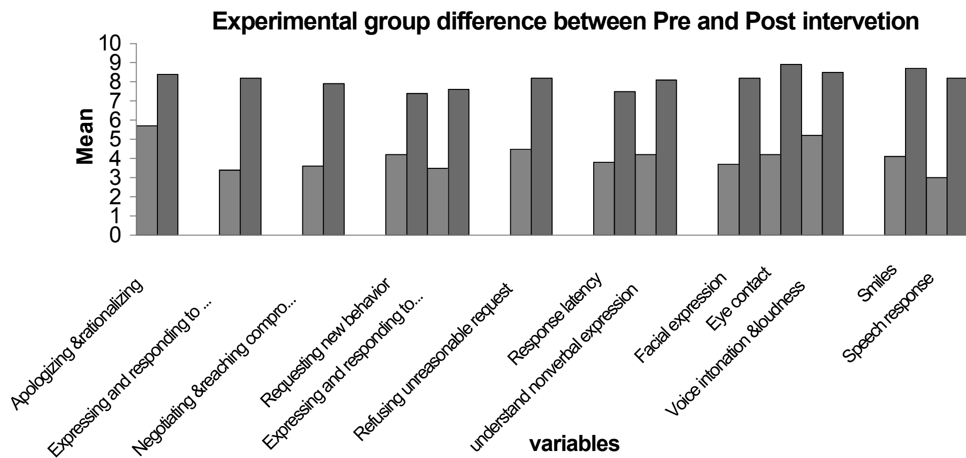

Fig. 1: Comparison between pre and post assessment of the experimental group in relation to improvement of psychosocial skills

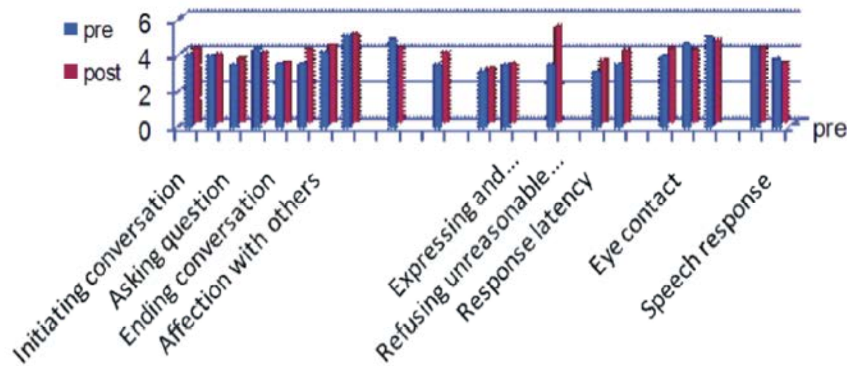

Fig. 2: Comparison between pre and post assessment of control group as regard psychosocial skills improvement (N=20)

Table 2: Difference between total mean ± SD of experimental and control groups regarding their improvement in social skills

Variable	Experimental	Control	t
	M ± SD	M ±SD	
Social skills	83.4 15.8	-1.4 14.5	17.7*

Significant at 0.05 levels

Table 3: Effect of independent study variables on improvement of experimental group regarding psychosocial skills

		Psychosocial skills		
Independent variables	No	M	SD	F
Age				
18 Y - 28 Y	6	79.1	15.9	0.40
29 Y - 40 Y	9	83.6	14.1	
41 Y - 50 Y	5	88.0	20.5	
Marital status				
Single	12	81.9	15.7	0.31
Married	4	91.2	19.5	
Divorced	4	80.0	13.6	
Level of education				
Primary	3	90.0	24.9	1.41
Secondary	9	77.0	11.5	
Higher	8	88.1	15.8	
Types of schizophrenia:				
Undifferentiated	8	89.6	14	
Paranoid	4	75.0	7.2	
Disorganized	5	75.6	16.3	
Residual	3	91.0	23.3	
No of hospital admission				
1 - <5	11	80.7	17.9	1.41
5 - <10	2	79.0	10.6	
10 - <20	7	93.4	15.1	
Duration of mental illness				
1 y - 4 Y	6	73.1	15.3	2.14
5Y - 8 y	4	84.5	7.6	
9Y - 20 Y	10	89.1	16.4	

unreasonable request at the pre assessment stage with a mean of (3.55±2.99) compared with (5.35±2.39) in post assessment of control group and computed t= 2.76 which indicates the significant difference between pre and post assessment of the negative assertive skill in control group.

Table 2 shows the difference between total mean of experimental and control groups regarding their improvement in social skills as the results revealed that there was a significant difference between control 1.1±4.5) and experimental (83.4±15.8) groups as regarding all items of psychosocial skills training starting from initiating conversation and ending with nonverbal elements of communications t= 17.7 at significant level 0.05.

Table 3 represents the effect of independent study variables on the improvement of experimental group as regard social skills training as the table shows that there were no statistically significant differences among study sample as regard their improvement in social skills despite that the highest mean detected among elderly (88.0±20.5), married ((91.2±19.5), primary educated (90.00±24.9), diagnosed with residual schizophrenia (M 91.00 SD ± 23.3), with multiple admission (M 93.4 SD ± 15.1) and longest duration of mental illness (M 89.1 SD ± 16.4) as F = 0.40, 0.61, 1.41, 1.55, 1.41 and 2.14 respectively.

DISCUSSION

The aim of the current study was to investigate the effectiveness of a constructed social skill training program on improving social skills among schizophrenic patients. The overall hypothesis was that social skills training would improve social skills including: conversational, social perception and problem solving skills. The results of this study revealed that schizophrenic patients were able to acquire social skills and it also revealed a significant improvement in conversational, assertiveness and interpersonal relationship skills, as the participants 'of experimental group successfully progressed in conversational, assertiveness and interpersonal relationship skills compared to the control group. This improvement was independent of age, duration of illness and length of hospitalization.

Our findings support the reports of previous studies [33-37]. Also, these results are consistent with the work of Galderisi *et al.* [38] who found that after 6 months of treatment, personal and social functioning was significantly better in patients assigned to social skills and neurocognitive individualized training than in those assigned to usual rehabilitation activities practiced in mental health departments.

On the other hand, the indirect effects are those that occur as a secondary process to the biological symptoms. This includes low self-esteem, poor academic and vocational performance in comparison to peer dependency and stigmatization from others. Within the same context, Galderisi *et al.* [38] added that schizophrenic patients have particular difficulty with the social skills of interpersonal relations, assertiveness, expression of thoughts and feeling. This was emphasized and supported by the results of the current study through the pre assessment data of experimental and control group in relation to psychosocial skills.

concerning the control group improvement of psychosocial skills, the results revealed that there was no significant difference between pre and post assessment variables except psychosocial skill of

refusing unreasonable request. This result might be due to lack of social competences and the presence of irrational beliefs or negative automatic thoughts (NATs) which trigger the patients easily by external or internal events and they usually perceive situations of life as being threatening and anxiety provoking. Also, people with chronic schizophrenia vary considerably in their cognitive functioning; cognitive flexibility is particularly necessary to produce alternative solutions to problems and is a significant predictor of the effect of social skills training on the acquisition of skills in social problem solving [37].

In accordance with the findings of Seo *et al*. [37] and Woolfe [40], we found that the demographics and illness characteristics of the experimental group had no statistically significant effect in improving their social skills. This is consistent with the results of a previous study done by Liberman *et al.* [23] and could be explained as the people who think concretely have problems generalizing and implementing newly learned skills in real-life situations when the impaired abstracting ability is due to schizophrenia, regardless of the phase or subtype of the illness, gender, level of education and hospitalization rate [39]. In addition, it is difficult for them to find and retain jobs, further isolating themselves from society [40, 41]. These poor social skills are closely related to repetitive recurrences of the disease and re hospitalizations and have been reported as important factors affecting prognosis [42].

However, the evidence for the generalizability of psychosocial training from the clinical setting to everyday life is far weaker and has received less attention than it deserves. The problem of generalizability is crucial for psychosocial skill training, as it may be reflected in the limited aspect of such training on re hospitalization, symptom reduction and improved social functioning. These conclusions are also supported by the results from both meta-analytic reviews and studies in which skill acquisition was assessed [34, 37, 43-45].

Limitations of the Study

This Study Had Several Limitations As:

- We did not measure or control psychiatric symptoms. As psychiatric symptoms might have an indirect negative effect on obtaining social skills by interfering with sustained attention, which is necessary to detect what the problem is and how it could be solved.
- Moreover, because we assessed social skills immediately after the training, we did not know the long-term effects of social skills training as schizophrenics think concretely so, they have problems in generalizing and implementing newly learned skills in real-life situations.

CONCLUSION AND IMPLICATIONS AREAS

The current study concluded that schizophrenic patients who were exposed to the constructed psychosocial skills training program exhibited significant improvement from base line levels on conversation and assertiveness skill to the general social performance. Despite the limitations of this study we found that schizophrenic patients were able to acquire new social skills if they trained regularly in therapeutic environment. So, it should be run as a routine care like medications and other therapies. Also, it is necessary to conduct programs that target the development of nurses' skills and knowledge on cognitive behavioral therapy including all community based skills necessary for active and effective socialization.

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