

PSYCHOSOCIAL REHABILITATION EFFECTS OF MUSIC THERAPY IN CHRONIC SCHIZOPHRENIA

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SUMMARY

This study examines the use of music as an adjunct therapy to medication. Seventy chronic schizophrenic patients with social disability were randomly assigned to an experimental group (n=40) and a control group (n=30). Individual and group music therapy combined with antipsychotic medications were given to the experimental group, while the control group received only neuroleptic therapy. All patients were evaluated with PSE, SANS, BPRS and SDSI. Videotaping was used to assess the changes from beginning to end. The results suggested a more positive effect of music therapy combined with medication on negative symptoms and social disability than medication alone. As reflected by the score on sluggishness, blunted affect, and poverty of thought, the improvement of negative symptoms was significant. There was also a significant difference in the reduction of severity in psychiatric disability three months after the music therapy.

Key words: psychosocial rehabilitation, music therapy, schizophrenia

INTRODUCTION

The goal of psychiatric rehabilitation is to restore social functioning associated with mental disability. Although conventional antipsychotic drugs are effective in the treatment of positive symptoms in schizophrenia, negative symptoms of chronic schizophrenia are more resistant to drug treatment (Lieberman, 1988). It is believed that psychosocial rehabilitation methods when combined judiciously with medication, can improve the negative symptoms of chronic schizophrenia. Music therapy can be regarded as one form of psychosocial rehabilitation because it can enhance social cohesiveness, and can affect individual's psychological and physiological well being, so as cognitive functioning and emotional expression. Recent studies have found that music therapy have a positive influence on self-perception and it can strengthen the ego of schizophrenic patients. Music therapy was also found to be effective in reducing negative symptoms by increasing patients' ability to converse with others and their interest in external events. This study examines the effectiveness of such therapy in reducing negative symptoms and social disabilities of chronic schizophrenic in-patients

METHODOLOGY

SELECTION OF SUBJECTS

All subjects were chronic schizophrenic in-patients who met CCMD-2 diagnostic criteria for schizophrenia (Wang, 1987). Besides, they all demonstrated social disability with the following characteristics:

The duration of illness was greater than two years;

They had received antipsychotic drugs in sufficient dose during the past six months; but symptoms had not been fully remitted. They did not have any physical disease.

Seventy-two patients were recruited initially and they were randomly assigned to an experimental group and a control group. One subject from each group dropped out before completion of the study, leaving behind a total number of 70 patients with 41 males and 29 females. Their ages ranged from 21 to 55 years with a mean of 38.6 years. The duration of illness ranged from 2 to 26 years with a mean of 12.6 years. They had at least two relapses which required readmission. The experimental group was given music therapy combined with neuroleptic medication (n=40) while the control group was given neuroleptic medication alone (n=30). Dose of antipsychotic drugs was unchanged from the beginning of the music therapy to the end of the study. The distribution of age, sex and education in the two groups is shown in Table 1.

ASSESSMENT INSTRUMENTS

The severity of symptoms and social functioning were assessed by two psychiatrists using the SANS, BPRS, PSE and SDSI (Social Disability Schedule for In-patient). The tests were performed at the beginning and the end of the study to compare the changes between the two groups. The inter-rater reliability was found to be satisfactory, with correlation coefficients for SANS, BPRS and SDSI all over 0.85. Using the Spearman's test, the kappa-value of the PSE was 0.88 for both evaluators. Videotaping and description of medical records were used to assess the changes before and after the treatment.

Table 1. Comparison of socio-demographic characteristics between the experimental and control group.

	Experi- mental Group	Control Group	Statistical Signi-ficance
No. of patients	40	30	
Age (mean years)	39.10 ±7.04	38.10 ±8.68	
Sex			
male	24	17	$\chi^2=0.078,$ $p>.05$
female	16	13	
Education			
Middle/ high school	36	29	$\chi^2=1.148,$ $p>0.0$
University	4	1	
Occupation			
worker	28	15	$\chi^2 =5.814$ $df=3$ $p>0.1$
farmer	1	1	
technician	3	1	
others	8	13	
Duration of illness (yrs.)	12.78 ±6.40	13.06 ±7.50	

Table 2. Comparison of the overall improvement between the two groups

	Marked improve- ment(%)	Some improve- ment(%)	No response (%)
Experimental group (n=40)	9 (22.5)	29 (72.5)	2 (5.0)
Control group (n=30)	1 (3.33)	8 (26.6)	21 (70.0)

df=2, p<0.001

INTERVENTION PROCEDURE

Because the application of music therapy required active participation of the patients, a combination of small group therapy and individual therapy was used to increase the rate of attendance. There were about 10-15 patients in each group. The program consisted of 6 sessions per week each lasting 2 hours. The therapy took three months to finish.

The two therapists were musicians who were responsible for teaching the patients singing, as well as musical knowledge. Discussion sessions were conducted after listening to music or after musical improvisation performance. The main emphasis was on participation, social communication and emotional expression. The contents of the music therapy were as follows: music appreciation for different styles of songs, music performance, and learning musicology. Patients were taught to distinguish between different rhythms and melody forms, the sound of music instruments, musical stories, musical games (for example, transmission of musical whispers from one patient to the next), music improvisation performance, and 01ff's rhythm practices (training the patient's eyes, hands, feet, legs and ears in coordination). Musical instruments were also made available for patients to play during social functions (Zhang, 1990).

RESULTS

Seventy patients completed the study. Table 1 shows that there were no significant differences between the two groups with regard to age, sex, education, occupation and duration of illness. Three months after the therapy, 9 out of the 40 patients in the experimental group showed marked progress, while 29 patients showed some improvement (making a total of 72.5%). Only two patients had not responded to music therapy. Among the 30 patients in the control group, only one patient improved markedly. Eight patients showed some improvement, the remaining 21 patients had no signs of improvement (Table 2). The difference between the two groups is reflected in the scores of the rating scale (SANS) which decreased significantly ($\chi^2=33.45, df=2, p<0.001$). A reduction in total score of more than 90% was regarded as 'remission'; over 60% as 'marked improvement'; 30% as 'somewhat improved', those with less than 30% reduction as 'no change'.

As reflected in the PSE, verbal hallucination and pseudo-hallucination improved by 55.6% and 77.8% respectively. The items on laziness, sluggishness, lack of initiative and slow speech had also improved by 47.4% to 63.6% in the experimental subjects. For 40 patients who finished the music programme, the scores of some items in BPRS also improved, with significantly lower scores in emotional withdrawal, conceptual disorganization, hallucination behavior, unusual thought content and blunted affect ($p<0.005$).

There were significant changes on the subscales of SANS after the study. Table 3 shows significantly lower scores for flattened affect, poverty of thought, lack of motivation, loss of interests, and attention deficit in the experimental group ($p<0.005$); however, the t-test between-group differences on the subscales were not statistically significant.

Furthermore, the social function for the experimental subjects also improved after three months of music therapy. The total score of the SDSI decreased significantly for the experimental group after the therapy. Finally, t-test and ANOVA indicated that there were significant differences in the SANS total score and the BPRS total score (Table 4).

DISCUSSION

Chronic schizophrenic in-patients often exhibit severe negative symptoms and social disabilities which do not respond well to medication. In order to promote psychosocial rehabilitation for these patients, psychiatrists have been exploring new methods in reducing negative symptoms. Music therapy can be quite useful as music can express feelings and thoughts easily, not to mention the promotion of social contact. Music therapy can be regarded as a form of social skills training, which focus on active participation, emotional expression and demonstration, promotion of self-esteem, and improvement of motor performance.

The main results of the present study indicated that most patients had shown improvement in negative symptoms after three months of such music programme. The rate of improvement was significantly higher in the experimental group negative- symptoms in subscales of SANS was also significantly

Table 3. Comparison of symptomatic changes in subscales of SANS

Subscale	study group(n=40)		cf with control group(n=30)	
	pre-test	post-test	t-value	t-value
Flattened affect	25.43+/-6.36	14.18+/-5.69	10.02**	0.21#
Poverty of thought	9.18+/-5.58	4.78+/-4.64	6.64**	0.40#
Lack of motivation	12.85+/-2.88	7.23+/-3.52	8.84**	1.20#
Loss of interests	17.00+/-3.76	10.78+/-4.26	8.13**	0.14#
Attention deficit	2.53+/-2.94	0.50+/-1.26	5.28**	1.58#

**p<0.005;

#nonsignificant

Table 4. The comparison of total score changes in the three rating scales

	Study group (n=40)			Control group(n=30)			
	pre X+/-SD	post X+/-SD	t-value	1 st X+/-SD	2 nd X+/-SD	t-value	f-test
SANS	68.15+/-17.68	68.37.95+/-17.0	11.12**	57.50+/-17.78	56.76+/-21.63	0.081	2.23**
BPRS	40.98+/-8.45	29.35+/-6.95	9.14**	40.10+/-8.69	39.26+/-8.85	0.62	3.29**
SDSI	8.80+/-3.94	4.95+/-2.83	8.06**	7.37+/-3.69	7.43+/-3.56	0.14	2.22**

** p<0.005

negative symptoms in subscales of SANS was also significantly improved in the experimental group. On the other hand, the negative symptoms did not change in the control group.

The results suggested that sluggishness, lack of activity, and poverty of thought could also be improved by applying music therapy. Since music can display one's emotions, the rhythm of music can be repeated as a means to mobilize patients thereby enhancing the psychological dynamics (Hohman, 1962). Besides, the composition of music and language resembles one another, in that melodies have different pitches just as language. Thus, music may create environmental stimuli for patients who have speech deficit and increase their abilities in thought association. BPRS item scores for blunted affect, conceptual disorganization, and hallucination behavior were all decreased at the end of the study in the experimental group. The comparison of total score on the BPRS between the two groups also showed statistically significant difference (Table 4).

Music therapy can be viewed as a form of social communication and social activity that promotes personal interaction and change of environment. During the therapeutic sessions, patients were encouraged to participate in musical games, musical improvisation and musical stories that require personal interaction and cooperation. Probably as a result of this active process, social withdrawal and loneliness were improved by 34.1% in the PSE and SDSI in the experimental group and the total scores of the SDSI were significantly different between the two groups (Table 4). Finally, musical games may serve as a tool for restoring cognitive function, increasing self-awareness and self-esteem. After three months of therapy, the severity of psychiatric disabilities was reduced in the experimental group. In conclusion, the present study has proved that music therapy was effective in reducing negative symptoms and social disabilities associated with schizophrenia.

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