MUSIC THERAPY IN CHRONIC SCHIZOPHRENIA

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ABSTRACT

Objective: Music therapy has been used worldwide in various psychiatric disorders for rehabilitation and improvement of symptoms not responding to medications. This study wanted to examine the role of music therapy in improving the symptomatology of chronic schizophrenia.

Design: This was randomized single blind study where randomization was done by sealed envelope method.

Place and Duration of study: This study was conducted in a private hospital set up in Mumbai over a period of 3 years from Jan 2002 to 2005.

Subjects and Methods: This study was conducted on 272 patients with chronic schizophrenia subjected to music therapy over a 1 month period. Music therapy was used as an adjunct to medications prescribed by the psychiatrists which were maintained similar in both groups. Assessments were made at baseline and at the end of 1 month using the Positive and Negative Symptom Scale for Schizophrenia (PANSS).

Results: It showed a significant difference on various subscales between study and control groups though long term effects were not analyzed. Scores on the anergia, activation and depression subscales of the PANSS showed extremely significant differences ($p < 0.0001$) while scores on the positive and negative syndrome scales differed significantly too ($p < 0.005$).

Conclusion: Music therapy may thus prove an effective tool in the holistic rehabilitation of schizophrenia as an adjunct to various pharmacotherapy and psychosocial treatments.

Key words: Schizophrenia, Music therapy

INTRODUCTION

Schizophrenia is a major mental illness marked by severe disabling symptoms and a chronic progressive course at times[1]. The symptoms of schizophrenia vary from social isolation, hallucinations, delusions, formal thought disorders to episodes of intense aggression and emotional outbursts. Very often we are able to alleviate these symptoms though not fully, but to a large extent with use of modern medicines. Yet a large number of schizophrenic have certain symptoms that remain and are termed as residual symptoms[2]. It has been noted that a variety of treatments used together and meaningfully is the best for the rehabilitation of chronic schizophrenia[3].

Today parallel to modern medicine there are many areas of Complementary and Alternative medicine that are used in various disorders with great success. The Cochrane Collaboration defines it as "complementary medicine is the diagnosis, treatment and / or prevention which complement mainstream medicine by contributing to a common whole by satisfying a demand not met by orthodox medicine or by diversifying the conceptual frameworks of medicine". This includes Acupuncture, Aromatherapy, Color therapy, Exercize, Reflexology, Healing or Reiki, Hypnotherapy, Massage therapy, Oxygen therapy, Flower therapy, Dance therapy, Acupressure and Music therapy[4].

Music therapy has been used widely in various medical and psychiatric conditions. It has been found effective in the management of chronic pain[5], high blood pressure[6], grief[7], chronic depression[8], dementia[9-10], Parkinson's disease[11], autism and children with developmental disabilities[12-14] as well as chronic schizophrenia[15-18]. Most studies on music therapy have been done with Western Classical music – Mozart and also with Japanese, Chinese and Korean music. There is a paucity of data with regard to the use of Indian music and only one study till date has been reported where Indian Classical music was used[19]. The present study attempts to look at the usefulness of Indian Classical Music in the management of chronic schizophrenia.

SUBJECTS AND METHODS

The study was conducted in a private hospital in the city of Mumbai for a period of 3 years between Jan 2002 and Jan 2005. 288 patients with a DSM-IV diagno-

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sis of schizophrenia[20] admitted for inpatient treatment to the hospital were the subjects of the study. There were a total of 16 drop outs due to early discharge resulting in a final subject population of 272 patients. The selected patients were divided into two groups – a study group (n = 136) and a control group (n = 136) by the random sampling method with the help provided by a qualified biostatistician. The study design was as that of a single blind randomized controlled trial. The randomization was done by sealed envelope method. Patients between the age of 18-60 years and being diagnosed as schizophrenia at least 3 years prior to the start of the study were included. All the patients were not in the acute phase of the illness, had good family support and were on either Olanzapine 10-20mg/day or Risperidone 2-6mg/day. They were on the non benzodiazepine hypnotic Zolpidem 5mg at night for sleep.

The following tools were used in the study –

(1) Structured interview to obtain demographic and clinical data.

(2) Positive and Negative Symptom Scale for Schizophrenia (PANSS) – this is a semistructured clinical interview made up of 30 items rated on continuum from 1 to 7. The assessment provides scores in nine clinical domain viz. positive syndrome, negative syndrome, depression, anergia, thought disturbance, activation, paranoid belligerence and general psychopathology[20-21]. All its items have a high internal reliability and homogeneity[22].

The scale was administered at the start and the end of the study by an independent rater who was not aware of the study groups.

Results were tabulated and statistical analyzed using Chi square test and student t test wherever appropriate.

Technique of Music Therapy

Music therapy was given in daily sessions every day for 30 minutes. The sessions were given in the morning hours between 9.00 and 10.00am. Passive listening

Table 1

Sociodemographic Data of both groups

Socio-Demographic Data		Music Therapy group (n = 136)	Control group (n = 136)	X^2	p value
Sex	Male	98	92	0.628df = 1	0.4279 NS
MaritalStatus	Female	38	44	2.9812df = 2	0.225 NS
	Married	63	66		
	Single	59	61		
	Divorced	14	09		
Religion	Hindus	78	81	0.9811df = 2	0.612 NS
	Muslim	35	36		
	Others	23	19		
Education	Uneducated	03	02	0.611df = 3	0.894 NS
	School	41	43		
	Graduates	58	57		
	Post Graduate	34	34		
Employment	Unemployed	40	45	0.428df =1	0.5131NS
	Employed	96	91		
Family Type	Nuclear	62	67	0.369df = 1	0.5438 NS
	Joint	74	69		

Chi square test used in the statistical analysis

NS – not significant, df = degree of freedom.

to the music was advocated with the eyes closed or open and this was followed by a reflection on the type of music. The background, content and musical instruments used in the music were explained to all patients at the start of the session in order to enhance their appreciation for the same. The music was played using a CD player with four speakers in the room. The music played was that of Indian Classical Music where Indian classical musical instruments like the santoor, tabla, shehnai, flute, sitar and violin were all fused in the music. No songs were used in the therapy. The total duration of therapy was 1 month.

Table 2

Age variables in both the groups

Data	Music Therapy Group (n = 136) Mean ± SD	Control Group (n = 136) (Mean ± SD)	t value	p value
Age	32.61 ± 6.78	33.17 ± 7.01	0.6696	0.5037NS
Age of onset of illness	26.72 ± 4.29	25.93 ± 4.77	1.4361	0.1521NS
Duration of illness	8.62 ± 3.21	8.18 ± 3.66	1.0540	0.2928NS

Student t test used in the statistical analysis

(NS = not significant)

Table 3

The subtypes of schizophrenia

SubtypeOfSchizophrenia	Music Therapy Group (n = 136)	Control Group (n = 136)	X^2	p valu
Paranoid	98	96	1.8236	0.6811NS
Catatonic	01	01		
Undifferentiated	32	36		
Disorganized	05	03		

Chi square test used in the statistical analysis.

NS – not significant.

Table 4

PANSS scores of both groups at the start of the study

PANSS Score	MusicTherapyGroup	ControlGroup	t value	p value
	(n = 136) (mean ± SD)			
Positive syndrome	16.23 ± 4.97	15.72 ± 4.66	0.8730	0.3825
Negative syndrome	22.16 ± 8.22	21.23 ± 5.72	1.0830	0.2798
Psychopathology	36.12 ± 6.86	34.79 ± 5.33	1.7854	0.0753
Thought Disturbance	8.63 ± 2.71	8.26 ± 2.23	1.2295	0.2200
Anergia	9.61 ± 3.93	9.35 ± 3.22	0.5968	0.5511
Activation	4.22 ± 1.27	4.08 ± 1.26	0.9126	0.3623
Paranoid belligerence	7.76 ± 2.81	7.32 ± 2.31	1.4106	0.1595
Depression	5.61 ± 2.21	5.12 ± 2.03	1.9042	0.0579

Student t test used in the statistical analysis.

Table 5

Differences in PANSS scores between the groups at the end of the study

PANSS Score	MusicTherapyGroup (n = 136) (mean ± SD)	ControlGroup (n = 136) (mean ± SD)	t value	p value
Positive syndrome	10.08 ± 2.97	11.07 ± 2.72	2.8685	0.0044*
Negative syndrome	15.13 ± 6.62	17.46 ± 7.82	2.6520	0.0085*
Psychopathology	23.77 ± 8.16	24.19 ± 7.88	0.4318	0.6662NS
Thought Disturbance	5.11 ± 1.61	5.35 ± 1.02	1.4726	0.1420NS
Anergia	3.22 ± 0.43	4.67 ± 0.49	25.9384	0.0001*
Activation	1.22 ± 0.11	1.38 ± 0.31	5.6725	0.0001*
Paranoid belligerence	5.23 ± 1.56	5.16 ± 1.34	0.3970	0.6917NS
Depression	2.21 ± 1.46	3.03 ± 1.62	4.3849	0.0001*

Student t test used in the statistical analysis,

* Significant, NS – not significant.

RESULTS

On assessing the sociodemographic data it was observe that there was no significant difference between both the groups (Table 1). The two groups were well matched on variables such as the age of onset of the illness, ages of the subjects and duration of illness (Table 2). On classifying the various types of schizophrenia the most common type in both groups was Paranoid schizophrenia (Table 3).

On assessing both the groups at the start of the study there was no significant difference amongst their scores on all the domains of the PANSS (Table 4). At the end of 1 month when reassessed there were significant differences in certain areas. Scores on the anergia, activation and depression subscales of the PANSS showed significant differences ($p < 0.0001$) while scores on the positive and negative syndrome scales differed significantly too ($p < 0.005$).

DISCUSSION

Among the main variables on the psychopathology subscales on the PANSS both the groups were well matched at baseline indicating as an overall similar severity of illness. The significant reduction in the positive and negative syndrome scales along with improvements in anergia and depression is in keeping with earlier studies[16]. Significant differences in the depression scores reveal newer avenues to be explored for the use of music therapy in the reduction of depressive features of schizophrenia. This is in keeping with previous work where depression has been alleviated with music therapy[4,23].

Improvement in symptoms like anergia, depression and the negative features of schizophrenia shall go a long way in the successful rehabilitation of these patients. We have not explored cognitive variables in this study but no significant reduction in thought disturbances seen may have been due to a failure of the music to improve cognitive impairment in schizophrenia unlike its success in dementia. It is also not known at this point of time what shall be the sustained positive effects of music therapy at the end of one year or six months as this is a relatively short study.

Psychiatric rehabilitation services for schizophrenia need a holistic approach. Music therapy may serve as a useful adjunct to routine rehabilitative procedures and occupational therapy in the management of schizophrenia. Further studies that address the role of long term music therapy, unlike a short study like this one as well studies that address the role of various types of music along with singing and interactive music therapy are a must if we are to explore the usefulness of music in this new avenue. Studies across various populations, diverse cultures and different settings are also needed for achieving this end.

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