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TO ACCESS THE ROLE OF MUSIC THERAPY IN DEPRESSION AND THEIR COMPARISON WITH DRUG THERAPY

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ABSTRACT: Depression can be termed as a state of mind where in the person has negative thoughts, pessimistic views of future and constantly in sad mood, he feels lonely to the extent that he may committing suicide. A decrease in serotonin and nor epinephrine level can cause depression and Dopamine plays an important role in regulating our drive to seek rewards and obtain a sense of pleasure. Music therapy is an emerging field to treat depression. Music brings changes in brain waves which in turn create alternations in bodily functions controlled by autonomic nervous system such as breathing and heart rate and slower breathing brings relaxation that is necessary to cure depression. The aims and objective of this study is to access efficacy of music therapy in reducing the symptoms of clinical depression and to compare the efficacy of antidepressant alone and music therapy in patients of depression. Music therapy is comparable to drug therapy in mild cases of depression but in moderate and severe cases there is negligible effect of music therapy in reducing symptoms of depression.

INTRODUCTION: Depression can be termed as a state of mind where in the person has negative thoughts, pessimistic views of future and constantly in sad mood, he feels lonely to the extent that he may committing suicide.

Depression is a common problem affecting about 121 million people worldwide and it affects approximately 10% of men and nearly 25% of women at least once in their life time [1]. Depression has been linked with suicide, which is associated with the loss of 1 million lives per year [2].

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A decrease in serotonin and norepinephrine level can cause depression and Dopamine plays an important role in regulating our drive to seek rewards and obtain a sense of pleasure.

Music therapy is an emerging field to treat depression. Music brings changes in brain waves which in turn create alternations in bodily functions controlled by autonomic nervous system such as breathing and heart rate and slower breathing brings relaxation that is necessary to cure depression [3].

Music is also used to bring a more positive state of mind, preventing anxiety and depression. This is helpful in managing stress response, also enhances optimism level and creativity. Thus music therapy plays a direct role in managing depression [4]. Evidence is beginning to emerge that music therapy can improve the mental health of people with depression.

We examine possible mechanisms of action of this complex intervention and suggest that music therapy partly is effective because active music-making within the therapeutic frame offers the patient opportunities for new aesthetic, physical and relational experiences.

In 1987, fluoxetine was the first SSRI introduced into the United States. Although initially approved for the treatment of major depression, fluoxetine is currently also FDA approved for the treatment of OCD, bulimia nervosa, premenstrual dysphoric disorder and there is evidence that it is effective in the treatment of dysthymia, panic disorder, social anxiety disorder, and bipolar depression.

Fluoxetine's empirical formula is $C_{17}H_{18}F_3NOHCl$, and it has a molecular weight of 345.79. Its chemical designation is N-methyl-3-phenyl-3-[(ααα-trifluoro-p-toylyl)-oxy]-propylamine hydrochloride.

Fluoxetine is well absorbed orally, with 72 to 90 percent systemic availability, Maximum plasma concentration is achieved within 6 to 8 hours of ingestion after a single 40-mg dose.

Fluoxetine is approximately 95 percent bound to serum proteins (albumin and α_1-acid-glycoproteins) at concentrations of 200 to 1,000 ng/mL.

The volume of distribution for fluoxetine and norfluoxetine, the biologically active metabolite, ranges from 20 to 45 L/kg. The rates of plasma clearance are 20 L per hour and 9 L per hour for fluoxetine and norfluoxetine, respectively. Fluoxetine is widely distributed, including excretion into breast milk.

The elimination half-life of fluoxetine is 1 to 3 days after acute administration and 4 to 6 days after chronic administration. Norfluoxetine has an elimination half-life of 4 to 16 days, independent of duration of administration. Impairment of hepatic function is associated with impaired metabolism of fluoxetine. Renal disease does not appear to impair the metabolism of fluoxetine or norfluoxetine in single-dose studies. Fluoxetine is essentially lacking any significant affinity for the muscarinic, cholinergic, H_1-histaminergic, $_1$-adrenergic, and 5-HT_1 or 5-HT_2 receptor subtypes.

This translates into a significant reduction in side effects produced by receptor blockade when compared to the older antidepressants. Fluoxetine, unlike TCAs, is also devoid of affinity for cardiac fast sodium channels and thus demonstrates a superior safety profile with regard to cardiac toxicity. Fluoxetine has no effect on monoamine oxidase activity.

Dosing and Administration: The suggested starting dosage of fluoxetine in patients with major depression is 20 mg per day. Treatment of OCD is also usually at higher doses than those used in major depression, with doses of 20 to 80 mg per day most commonly used. Starting dosages of 10 mg per day are often used in treating children, adolescents, or elderly patients.

MATERIAL AND METHOD: This study was conducted at M.L.B. Medical College Jhansi on the patients attending psychiatry O.P.D., men and women of age group of 20to 60 years were included in the study. Total 90 patients were included in the study.

In this study, an I.C.D.10 criterion was used to diagnose depression. Patients were divided in two groups and each group contain 45 patients

Group I was treated by music therapy thrice in a week for 45 minutes.

Group II was prescribed antidepressant (Fluoxetine 20-40 mg / day).

The psychiatric evaluation and scoring had been done pre and post therapy according to Hamilton depression rating scale. Post therapy rating was done on 2 week, 4 week and 6 weeks of therapy.

Observation: The present study was undertaken to explore the antidepressant effect of antidepressant drugs and music therapy alone against mild, moderate and severe cases of depression. The study was conducted in all ages of men and women. Each therapy was given in 45 patients up to 6 weeks.

Psychiatric evaluation was done at 2^{nd}, 4^{th}, 6^{th} week of therapy. Improvement of mood and behaviour was measured by Hamilton depression rating scale. Gradually decreasing score of this scale was considered as the index for antidepressant activity.

TABLE 1: NUMBER OF MALE AND FEMALE PATIENTS IN DRUG THERAPY, MUSIC THERAPY AND IN COMBINED THERAPY

Patients	Drug therapy	Music therapy	Drug + Music	Total
Male	14	18	20	52 (57.8%)
Female	16	12	10	38 (42.2%)
Total	30	30	30	90

Total number of patients in this study was 90. Maximum incidence of depression was noted in males (57.8%)

TABLE 2: AGE DISTRIBUTION

S. No.	Age group (in yrs)	No. of patients	Percentage
1	21-30	20	22.22
2	31-40	40	44.44
3	41-50	18	20.00
4	51-60	12	13.34
Total		90	100%

Majority of patients were in the age group of 31-40 years (44.44) followed by21-30 years of age group (22.22%).

TABLE 3: COMPARISON OF HAM-D SCORE BEFORE THERAPY AND AFTER 2 WEEK OF THERAPY

	Type of Depression	Before therapy (Mean Value)	HAM-D score after 2 weeks	
			2^{ND} weak	p- value
Drug therapy	Mild	12.7	6.2	0.0001
	Moderate	20.3	10.2	0.0001
	Severe	38.1	18.9	0.0001
Music therapy	Mild	11.5	9.1	0.0001
	Moderate	21.0	18.4	0.07
	Severe	33.1	31.7	0.73

p- Value less than 0.05 was taken as significant. t- Test was applied to compare the mean value at different stages of study.

TABLE 4: COMPARISON OF HAM-D SCORE BEFORE THERAPY AND AFTER 4 WEEK OF THERAPY

	Type of Depression	Before therapy (Mean Value)	HAM-D score after 4 weeks	
			2^{ND} weak	p- value
Drug therapy	Mild	12.7	3.21	0.0001
	Moderate	20.3	5.73	0.0001
	Severe	38.1	9.8	0.0001
Music therapy	Mild	11.5	5.2	0.001
	Moderate	21.0	16.4	0.55
	Severe	33.1	28.3	0.52

p- Value less than 0.05 was taken as significant. t- Test was applied to compare the mean value at different stages of study.

TABLE-5 COMPARISON OF HAM-D SCORE BEFORE THERAPY AND AFTER 6 WEEK OF THERAPY

	Type of Depression	Before therapy (Mean Value)	HAM-D score after 4 weeks	
			2^{ND} weak	p- value
Drug therapy	Mild	12.7	0.6	0.0001
	Moderate	20.3	2.1	0.0001
	Severe	38.1	2.7	0.0001
Music therapy	Mild	11.5	1.6	0.0001
	Moderate	21.0	14.4	0.834
	Severe	33.1	25.1	0.549

p- Value less than 0.05 was taken as significant. t- Test was applied to compare the mean value at different stages of study.

Table 3, 4 and 5 shows patients of all the groups of drug therapy, and combined therapy shows statistically significant improvement that is reduction in HAM-D score while patients in groups of music therapy shows statistically significant improvement in patients of mild cases of depression while the difference in moderate and severe cases of patient receiving music therapy is statistically insignificant.

RESULTS: Music therapy is comparable to drug therapy in mild cases of depression but in moderate and severe cases there is negligible effect of music therapy in reducing symptoms of depression.

DISCUSSION: The results of present study were not in support of music therapy as in mild cases of depression the improvement was 86.09% within 6 weeks, in moderate cases of depression this was 31.4% within 6 weeks and in severe cases of depression the improvement was 24.17% within 6 weeks. In mild cases of depression, music therapy is comparable to drug therapy but in moderate and severe cases there is negligible effect of music therapy in improvement of mood and behaviour and this results was different from study by Chen et.al 1992 in which percentage reduction in HAM-D score from baseline to end of treatment was 98% among those treated with music therapy and 67% among those randomized to standard care.

Four studies by Chen 1992 [5]; Hanser 1994 [6]; Radulovic 1997 [7]; and Hendricks1999 [8]; reported greater reduction in symptoms of depression among those randomized to music therapy [7].

CONCLUSION: The current clinical study has been planned with an objective to study the antidepressant drugs and to study the efficacy of music therapy in reducing the symptoms of clinical depression. The study is also extended to compare the efficacy of antidepressant and music therapy alone in patient of depression.

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