

An Experimental Study to Assess Effectiveness of Music Therapy on Level of Depression among IT Employees in Selected IT Companies of Ahmedabad City, Gujarat State

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Abstract

Background: The purpose of the study was to determine the impact of music therapy on the degree of depression experienced by IT workers in a subset of Ahmedabad, Gujarat state, IT organizations.

Materials and Methods: Pre-experimental research methodology and a single group pre- and post-test study design were employed. It was conducted with 40 IT workers who met the inclusion requirements. The sampling strategy employed was non-probability purposive sampling. Beck's Depression Inventory-II was the instrument used to gather data and determine the degree of depression experienced by a subset of IT workers from a subset of IT organizations. Using the test-retest approach, the reliability of the Beck Depression Inventory-II was calculated, and the result was 0.92.

Analysis and Interpretation: The mean difference was found to be 5.0, with the mean pre-test score being 22.83 and the mean post-test score being 17.83. It demonstrates that there was a substantial difference between the mean pre-test and post-test scores. At the 0.05 level of significance, the tabulated "t" value is 1.685 and the computed "t" value is 19.949. There is a difference between the computed and tabulated "t" values. As a result, the research hypothesis was supported and the null hypothesis was rejected.

Conclusion: The results showed that music therapy is useful in lowering IT workers' depression levels.

Keywords: Beck's depression inventory, depression, effectiveness, IT employees, music therapy

INTRODUCTION

"Music can lift us out of Depression - It is a remedy" -----
- Oliver Sacks

Depression is a common psychiatric illness that leads to problems which can be physical, emotional, or both. It has a

negative impact on how one feels, thinks, or act. It reduces one's ability to work at home as well as in professional life.^[1]

Suicide can be one of the awful outcomes of depression. Nearly 1 million people die due to committing suicide every year, which means 3000 lives lost per day.^[2]

Depression is marked by a change in emotion or mood that reduces self-worth, makes us feel guilty, and impacts our desire to enjoy life. Depression is not some kind of emotional response that occurs when we lose a loved one or object like grief or mourning. When the person is feeling persistently unhappy, depression can be seen. There are several symptoms that are seen in depressive persons such as low self-esteem, hopelessness, anorexia, insomnia, or disturbances in sleep pattern like early awakening or reduction in sound sleep,

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no desire to socialize or do even simple tasks of day-to-day life.^[3]

IT professional's work life includes preparing presentations, brainstorming to produce brilliant ideas, to make creative software and websites. They must meet deadlines, fulfill demands of customers, learn new computer language to sustain in the field. For getting promotion in shorter span of time and better position in the company, they are constantly thriving on performing their best, that's when stress comes into their life which if not managed can lead to symptoms of depression.^[4]

The mainstay of treatment is usually medication, therapies, or a combination of the two. There are several treatment methods for major depression disorder. These approaches include antidepressant medications such as serotonin reuptake inhibitors, atypical antidepressants, tricyclic antidepressants, etc. Psychotherapy or talk therapy, brain stimulation therapies like electroconvulsive treatment and transcranial magnetic stimulation, behavior therapy, music therapy, recreational therapy, and relaxation therapies like yoga, meditation, physical exercise, etc.^[5]

To improve patient's quality of life, an evidence-based music therapy is used. By using receptive and active music experiences such as composition, redeveloping, etc. client's health can be improved in various domains such as emotional, sensory, cognitive, motor, etc. Music therapists implement music and its various facets to improve overall health of the client.^[6]

Music therapy is one type of relaxation technique in which person listens to music which helps in relaxing mind as well as body. Music soothes the soul and improves physiological functions. For improving, restoring, and maintaining physiological, emotional, and spiritual health, a mixture of musical tones is used.^[7]

Objectives

The objectives of the study are as follows:

- To find out the level of depression among IT employees in selected IT companies of Ahmedabad city, Gujarat
- To evaluate the effectiveness of music therapy on level of depression among IT employees in selected IT companies of Ahmedabad city, Gujarat
- To find the association with selected demographic variables.

Hypothesis

- H0: Among IT workers in particular IT organizations in Ahmedabad, Gujarat, there would not be a detectable variation in mean pre- and post-test scores
- H1: Among IT personnel in particular IT companies in Ahmedabad, Gujarat, the mean post-test score will be considerably lower than the mean pre-test score at the 0.05 level of significance.

MATERIALS AND METHODS

Research design

The research approach used is quantitative. In that research, design used is pre-experimental.

Research setting

The research was carried out in selected IT companies of Ahmedabad city.

Sampling size and sampling technique

The study's sample comprises forty IT personnel employed in certain IT firms located in Ahmedabad. To choose samples, a non-probability purposive sampling strategy was applied.

RESULTS OF THE STUDY

Results pertaining to the samples' demographic variables

In this study, majority 20 (50%) of the samples were from age group 21 to 30 years, majority 22 (55%) samples were from male group, majority of the samples 27 (67.5%) belong to graduation in computer science, majority of the samples 21 (52.5%) were married, majority of the samples 21 (52.5%) were having 8–11 years of experience, majority of the samples 30 (75%) were working for 10–11 h/day, majority of the samples 14 (35%) belongs to the sample who felt they have suffered from depression as shown in Figure 1.

Results pertaining to the IT personnel' pre- and post-test scores on their degree of depression

The data in Figure 2 show a frequency distribution of scores of samples before the administration of music therapy. In pre-test, 20 (50%) samples had borderline clinical depression, 16 (40%) samples had moderate depression, and 4 (10%) samples had severe depression.

The data in Figure 3 show a frequency distribution of post-test score, that is, after administration of music therapy to the samples. In post-test, 1 (2.5%) sample had ups and downs that are normal, 19 (47.45%) had mild mood disturbance, 11 (27.5%) samples had borderline clinical depression, 8 (20%) samples had moderate depression, and 1 (2.5%) sample had severe depression.

Results about the impact of music therapy on the degree of depression experienced by IT workers

The mean post-test score, as indicated in Table 1, is 17.83, which is less than the mean pre-test score of 22.83. A mean difference of 5.0 is determined. The test results' pre-test standard deviation was 4.74, whereas the test results' post-test standard deviation was 4.28. At the 0.05 level of significance, the tabulated "t" value is 1.685 and the computed "t" value is 19.949. There is a difference between the computed and tabulated "t" values. As a result, the research hypothesis is accepted and the null hypothesis is rejected. Thus, it may be concluded that the samples' levels of depression decreased following the application of music therapy.

Table 1: Correlation of pre-test and post-test score on level of depression of the samples

S. No.	Test	Mean	Standard Deviation	Mean difference	Calculated t-value	DF	Table value	Sig/Non-Sig
1	Before-test score	22.83	4.74	5	19.949	39	1.685*	Significant
2	After-test score	17.83	4.28					

*0.05 significance level

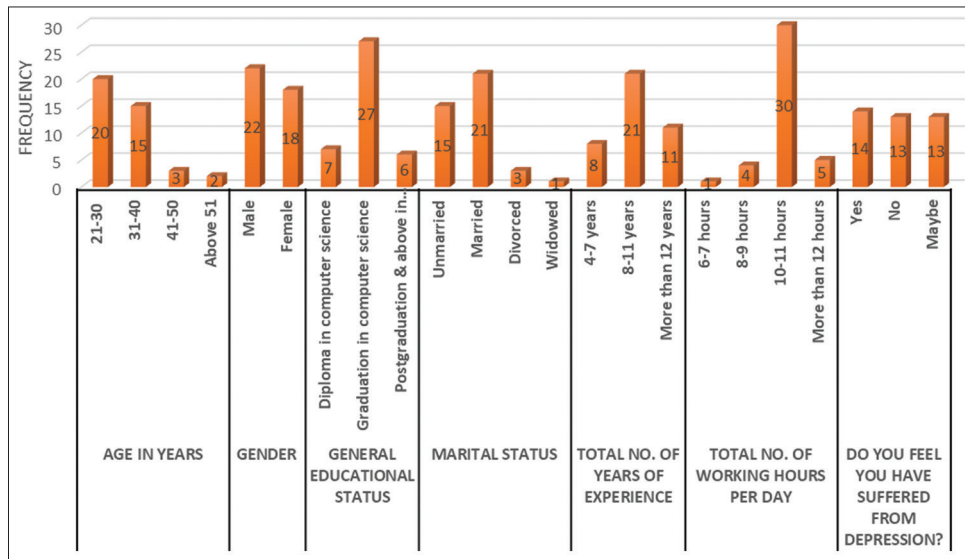


Figure 1: A column graph showing frequency distribution of demographic variable of the samples

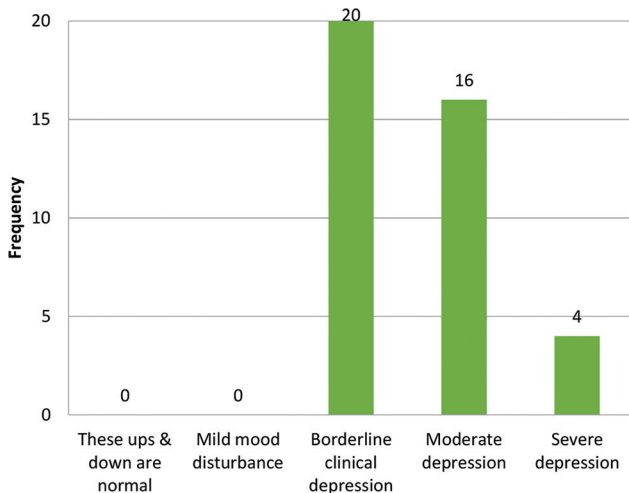


Figure 2: A column graph showing pre-test score of the samples on the level of depression

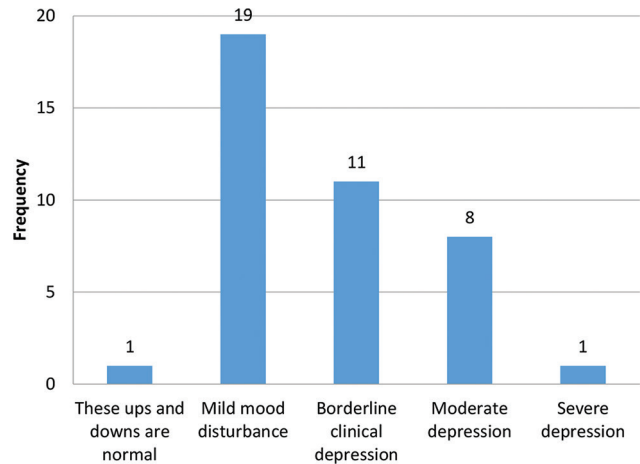


Figure 3: A column graph showing post-test score of the samples on the level of depression

Results pertaining to the correlation between sample pre-test results and particular demographic characteristics

Table 2 presents the study’s findings, which indicate that there is a strong correlation between gender and pre-test scores, but no significant correlation is found between other selected demographic characteristics and sample pre-test scores.

DISCUSSION

Sunitha *et al.* evaluated how stress, depression, and anxiety levels of patients suffering from depression are affected by

providing them therapy with Indian classical music. After music therapy, changes that are significant statistically were seen in anxiety, stress, and depression scores. After providing Indian classical music therapy, it was found that there was the reduction in the level of anxiety, stress, and depression levels.^[8]

Erkkilä *et al.* conducted a randomized controlled trail study to find out how music therapy works in treating depression in the group of working age people along with standard care as opposed to only standard care. Seventy-nine people of age group 18–50 having depression were assessed. Standard care was received by 46 candidates which consist of antidepressant

Table 2: Association of pre-test score regarding level of depression with selected sociodemographic variable

Sociodemographic variables	Pre-test score			Total	Fisher's Chi-square/ Chi-square	DF	Table value	Sig/ Non-Sig
	Borderline clinical depression	Moderate depression	Severe depression					
Age in years								
21-30	11	7	2	20	2.349	6	12.59	Non-Sig
31-40	6	7	2	15				
41-50	2	1	0	3				
Above 51	1	1	0	2				
Gender								
Male	11	10	1	22	7.31	2	5.99	Sig
Female	6	5	7	18				
General educational status								
Diploma in computer science	5	2	0	7	4.935	4	9.49	Non-Sig
Graduation in computer science	10	13	4	27				
Post-graduation and above in computer science	5	1	0	6				
Marital status								
Unmarried	7	6	2	15	2.692	6	12.59	Non -Sig
Married	10	9	2	21				
Divorced	2	1	0	3				
Widowed	1	0	0	1				
Total number of years of experience								
4-7 years	5	2	1	8	1.77	4	9.49	Non -Sig
8-11 years	9	10	2	21				
More than 12 years	6	4	1	11				
Total number of working hours per day								
6-7 h	1	0	0	1	6.206	6	12.59	Non -Sig
8-9 h	4	0	0	4				
10-11 h	13	13	4	30				
More than 12 h	2	3	0	5				
Do you feel that you have suffered from depression								
Yes	7	6	1	14	4.18	4	9.49	Non-Sig
No	9	3	1	13				
Maybe	4	7	2	13				

medication, psychotherapy session, and counseling. The remaining 33 candidates received 20 biweekly sessions of music therapy each of 60 min with standard care. At the end of 3 months, the candidates receiving music therapy with standard care exhibited significant improvement in symptoms of depression than candidates who only received standard care.^[9]

Moasheri *et al.* investigated how music therapy affects depression among male dormitory scholars. Two hundred and thirty-six male dormitory students were selected by systematic random sampling. The students who suffered from various level of depression were 37.7%. Results showed significant changes between pre-test and post-test values. The findings suggested that music therapy is effective in alleviating depression.^[10]

Dipti in an article stated that more than 6000 workers from different cities, around organizations completed depression scale voluntarily. About 80% of the workers showed symptoms which suggest anxiety and 55% of workers who showed symptoms which suggest depression were having those symptoms for more than 12 months before taking help from skilled professionals.^[11]

Vimala and Madhavi investigated how experience and age affects stress and depression and its association with women IT workers in Chennai, India. Moderate stress was experienced

by women IT workers. About 84% of candidates experienced moderate level of depression and it was seen that stress and depression were influenced by age and experience of the candidates.^[12]

CONCLUSION

The average post-test results were considerably lower than the average pre-test scores, according to the study. There is a difference between the computed and tabulated “*t*” values. As a result, the research hypothesis was supported and the null hypothesis was rejected. As a result, it can be said that after receiving music therapy, the samples’ levels of depression decreased. The results showed that music therapy is useful in lowering the group of IT workers’ depression levels.

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CONFLICT OF INTEREST

Not applicable.

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