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Research Paper

A Study to Assess the Effectiveness of Music Therapy on Hypertensive Elderly Residing in Selected Geriatric Homes, Kancheepuram District, Tamil Nadu, India

Nursing

KEYWORDS : Music therapy, Hypertensive Elderly & Geriatric Home.

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ABSTRACT

: Old age population in India is currently the second largest in the world. Urbanization and industrialization force the children to board their old aged parents in geriatric homes. Institutions are mushrooming since 1990s. In geriatric homes more than half of the elderly are suffering from hypertension. Most of the hypertensive is suffering also from other diseases, resulting in significant reduction of daily activities and compromised satisfaction over life. Mortality rates will be higher among geriatric which is included in the vulnerable group by the year 2020, mainly due to cardiac illness. The baseline cause will be hypertension among elderly. . Hypertension though it is a treatable ailment, but it leaves a space for intervention which includes complimentary therapies especially music therapy. .(Datta Pratyay Pratim, 2011.)

The objectives of the study were to assess the effect of music therapy on elderly suffering from hypertension, who are residing in selected geriatric homes and to associate the effect with selected demographic variables. The study was conducted in 'Little Drops' old age home (experimental group), and 'Little Angles' old age home (control group), Chennai, Tamil Nadu. A Quasi experimental design Pre-test/Post-test Control Group was used. Elderly samples of 101 in experimental group and 100 in control group were selected. Purposive sampling technique was used in selecting the samples. Inclusion criteria were followed, as the samples that were able to hear the music by conducting whisper test. The effect of music therapy on hypertension was assessed by using sphygmomanometer. Pre test was done before the intervention of administration of music therapy. It was administered to the participants who were included in listening to a predesigned instrumental music based on raga Malkauns, for the duration of 22 minutes at a specified time in the evening for a period of 30 days. The collected data were analyzed using the descriptive statistics and inferential statistics. The study results revealed that, there is a significant relationship between the effect of music therapy and the increased level of blood pressure of the elderly; also showed a significant relationship between age and occupational status with the level of well being. The study concludes that training in the field of geriatrics and gerontology for Para professionals in counseling the elderly including music therapy beneficial effects on the problems of the elderly.

INTRODUCTION:

The Indian aged population is currently the second largest in the world.

In most gerontological literature, people above 60 years of age are considered as 'old' and as constituting the 'elderly' segment of the population.

India is home to one out of 10 senior citizens in the world. This population, estimated to be over 80 million at present, is projected to grow to 137 million by 2021.

This population, which was 77 million according to the 2001 census (7.5% of the total population), is projected by the UN to increase to 137 million by 2021. Three-fourth of the elderly population lives in rural areas. The annual growth rate is higher (3%) as compared to the growth rate of the total population (1.9%). Population projections show that by 2050, the elderly population in India will surpass the population of children below 14 years. (A Report of Union Health Ministry, Govt of India, 2011).

Taking care of them was mainly the responsibility of their children. But the trend in family system has a shift to nuclear family system lead to a force to stay in old age homes, resulting in significant reduction of daily activities and compromised satisfaction over life. Institutions are mushrooming since 1990s. In 1998, India had 728 old age homes. In 2006 it is increased to 1049. Mortality rate among elderly is increasing which is mainly due to cardiac illnesses, the baseline cause is hypertension. This is preventable by administering complementary therapies especially music therapy. (Sireesha Srinivasa Rao. & et. Al., 2014.)

Minimal studies were conducted even in developed countries. Training in the field of geriatrics and gerontology for Para professionals in counseling the elderly including music therapy beneficial effects on the problems of the elderly.

MATERIALS AND METHODS:

Research approach: Quasi-Experimental Research Approach

Research design Quasi experimental design Pre-test/Post-test Control Group design

Settings of the study: 'Little Drops' old age home (experimental group), and 'Little Angles' old age home (control group), Chennai, Tamil Nadu.

Population: Elderly residing in the geriatric homes

Sample: elderly above 60 years of age, who can be able to read, write; also able to listen to the music.

Sample size: 101 samples in experimental and 100 in control groups who have met the inclusion criteria

Sampling Technique: purposive sampling technique.

Criteria for Selection of Sample:

Inclusion criteria: The inclusion criteria for the present study were:

- Males and females who are above the age group of 60 years.
- Those who can speak either Tamil or English language.
- Those who are willing to participate in this study
- Those who are able to listen to the music by conducting whisper test.

Exclusion criteria: The exclusion criteria for the present study were:

- Those who are not available at the time of study.
- Those with the disability of deaf and dumb

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Instrument: Sphygmomanometer was used for checking the blood pressure of the elderly. This was one of the bio physical parameters which were checked before and after intervention in the experimental group. Along with blood pressure, radial pulse and respiration were checked in each sample.

RESULTS AND DISCUSSION

The collected data were entered in data sheet and analyzed using descriptive and inferential statistics. The distributions of the demographic data of the study participants are more than half the proportion (58.0%) of the elderly were in the age group of 60-70 years. With regard to the gender, males are found more (51%) than the females in the geriatric home (experimental group). Higher proportions (37.6%) of the elderly were widows/widowers. Also higher proportion (39.6%) of the old aged finished their primary schooling Majority (67.3%) of was having self income in the form of pension.

Table 1: COMPARISON OF SYSTOLIC BLOOD PRESSURE

	Group				Student's independent t-test
	Experiment		Control		
	Mean	SD	Mean	SD	
Baseline	161.60	14.19	161.00	13.67	t=0.30 p=0.76
After 1 month	151.85	14.45	160.40	12.88	t=4.41 p=0.001***

* significant at P≤0.05 ** highly significant at P≤0.01 *** very high significant at P≤0.001.*Table no.1 Baseline, and* after 1 month *SBP comparison between experiment and control group elderly people. Considering* **Bale line SBP** *, experiment group aged people are having 161.60 where as in control group it is 161.00 . So the difference between experiment and control group is 0.60, it is small difference and it is not statistically significant. Considering the level of* **SBP after 1 month** *, experiment group aged people are having 151.85 where as in control group it is 160.40 . So the difference between experiment and control group is 8.55 . This difference is large and it is statistically significant. Statistical significance was calculated using student independentt-test.*

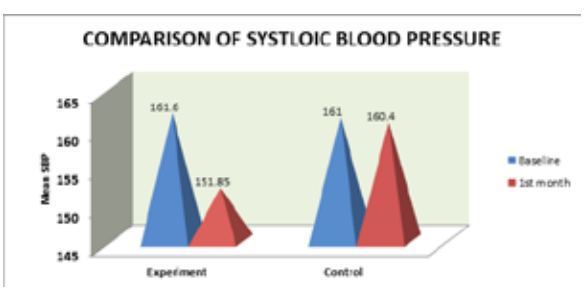

Table 2: COMPARISON OF DYSTOLIC BLOOD PRESSURE

	Group				Student's independent t-test
	Experiment		Control		
	Mean	SD	Mean	SD	
Baseline	100.10	7.98	98.60	9.54	t=1.21 p=0.23
After 1 month	95.70	8.06	98.22	9.51	t=2.02 p=0.05*

* significant at P≤0.05 ** highly significant at P≤0.01 *** very high significant at P≤0.001 .*Table no.2 Baseline and after 1 month DBP comparison between experiment and control group elderly people.Considering* **Bale line DBP** *, experiment group aged people are having 100.10 where as in control group it is 98.60 . So the difference between experiment and control group is 1.50, it is small difference and it is not statistically significant. Considering the level of* **DBP after 1 month**, *experiment group aged people are having 95.70 where as in control group it is 98.22 . So the difference between experiment and control group is 2.52. This difference is large and it is statistically*

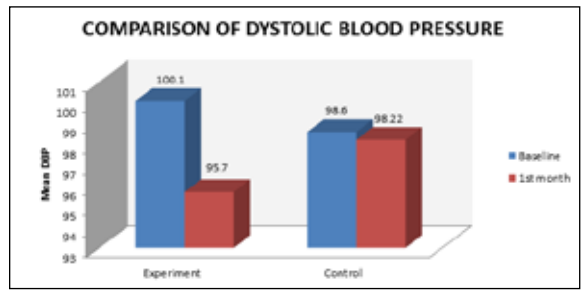

Table 3: EFFECTIVENESS OF MUSIC THERAPY ON BLOOD PRESSURE

		Baseline	After 1 month	Mean Difference with 95% Confidence interval	Percentage Difference with 95% Confidence interval
SBP	Experiment	161.60	142.40	9.75(9.53–9.97)	6.0%(5.9% –6.2%)
	Control	161.00	160.10	0. 60(0.49–1.69)	0.4%(-0.30% –1.1%)
DBP	Experiment	100.10	91.10	4. 40(3.66–5.14)	4.4%(3.6% –5.1%)
	Control	98.60	97.79	0.38(-0.07–1.19)	0.4%(-0.1% –1.2%)

Statistical significance was calculated using student independent t-test

TABLE 4: IDENTIFICATION OF INFLUENCE FACTORS FOR REDUCTION OF SBP USING MULTIVARIATE LOGISTIC REGRESSION

Demographic variables	Sig.	Odds ratio Lower	95%CI Upper	
Age(**< 70 yrs Vs > 70 yrs)**	.685	1.133	.621	2.066
Sex (**Female Vs Male)**	.903	1.041	.544	1.991
Marital status(**Married Vs others**)	.041	1.864	1.071	3.870
Education status(**Literate Vs Illiterate**)	.080	.495	.225	1.087
Income(**Income Vs No income**)	.493	.761	.349	1.659
Exercise (**Yes Vs No**)	.037	2.138	1.044	4.366
Interest (**Yes Vs No**)	.309	.619	.246	1.560
Other habits(**No Vs Yes**)	.391	1.363	.671	2.770
Family income(**> Rs.1500 Vs <Rs. 1500**)	.323	.704	.351	1.413
Relationship(**Yes Vs No**)	.257	1.610	.707	3.668

Table 4 shows the influencing factors to reduce SBP among the demographic variables of experimental group elderly people . Married people are having 1.86 times more reduction than others and Exercise people are having 2.13 times more reduction than others. It was found using multivariate logistic regression.

TABLE5: IDENTIFICATION OF INFLUENCE FACTORS FOR REDUCTION OF DBP USING MULTIVARIATE LOGISTIC REGRESSION

	Sig.	Odds ratio Lower	95%CI Upper	
Age(< 70 yrs Vs > 70 yrs)	.184	.662	.360	1.217
Sex (**Female Vs Male**)	.583	.834	.436	1.594
Marital status(**Married Vs others**)	.453	.760	.372	1.555
Education status(**Literate Vs Illiterate**)	.002	3.445	1.547	7.672
Income(**Income Vs No income**)	.802	.904	.411	1.987
Exercise (**Yes Vs No**)	.008	3.440	1.371	7.625
Interest (**Yes Vs No**)	.245	.612	.267	1.401
Other habits(**No Vs Yes**)	.500	1.278	.627	2.602
Family income(> **Rs.1500 Vs <Rs. 1500**)	.129	1.724	.853	3.483
Relationship(**Yes Vs No**)	.871	1.058	.533	2.100

Table 5 shows the influencing factors to reduce DBP among the demographic variables of experimental group elderly people. Literate people are having 3.44 times more reduction than others and Exercise people are having 3.44 times more reduction than others. It was found using multivariate logistic regression

CONCLUSION:

Ageing, though it is a physiological phenomenon, needs much attention to alleviate physical and psychological problems of the elderly. Due to urbanization and industrialization old aged are forced to stay in the old age homes. Due to loneliness, feeling aloof, etc lead to bio physical problems mainly hypertension which can be treated with music therapy, one of the complimentary therapies.

Music therapy helps the old aged by reducing blood pressure through musical progress. Drawing the study, the article concludes by arguing for further research to contribute to the growing body of evidence placing music learning at the centre of healthy ageing agendas.

REFERENCE

1. World Population Prospects Sep'14 Census, 101-103. 2. SIREESHA SRINIVASA RAO. & E.T AL., 2014. A Cross-Sectional Study of Cognitive Impairment and Morbidity Profile of Inmates of Old Age Home, Sch. J. App. Med. Sci., 2(4E), 1506-1513. 3. BERNARDI, L., PORTA, C. & SLEIGHT, P. 2006 APR. Cardiovascular, Cerebrovascular, and respiratory changes induced by different types of music in musicians and non-musicians: the importance of silence. Heart.,92(4):445-52 4. . MAMMARELLA, N., FAIRFIELD, B. & CORNOLDI, C. 2007 OCT. Does music enhance cognitive performance in healthy older adults? The Vivaldi effect. Aging Clin Exp Res, 19(5), 394-9. 5. TENG, X.F., WONG, M.Y. & ZHANG, Y.T. 2007.The effect of music on hypertensive patients. Conf Proc IEEE Eng Med Biol Soc, 4649-51 6. LE ROUX, F.H., BOUIC, P.J. & BESTER, M.M. 2007. The effect of Bach's magnificent on emotions, immune, and endocrine parameters during physiotherapy treatment of patients with infectious lung conditions. J Music Therapy, Summer, 44(2), 156-68. 7. KREUTZ, G., BONGARD, S., ROHRMANN, S., HODAPP, V. & GREBE, D. 2004 DEC. Effects of choir singing or listening on secretory immunoglobulin A, cortisol, and emotional state. J Behav Med, 27(6), 623-35. 8. BERNATZKY, G., BERNATZKY, P., HESSE, H.P., STAFFEN, W. &, LADURNER, G. 2004 MAY. Stimulating music increases motor coordination in patients afflicted with Morbus Parkinson. Neurosci Lett. 6,361(1-3), 4-8. 9. ROSENKRANZ, K., WILLIAMON, A. & ROTHWELL, J.C. 2007 MAY 9. Motorcortical excitability and synaptic plasticity is enhanced in professional musicians. J Neurosci, 27(19), 5200-6. 10. FOX, J.G. & EMBREY, E.D. 1972 DEC. Music - an aid to productivity. Appl Ergon, 3(4), 202-5. 11. PAVLYGINA, R.A., FROLOV, M.V., DAVYDOV, V.I., MILOVANOVA, G.B. & SULIMOV, A.V. 1999 MAR-APR. Recognition of visual images in a rich sensory environment: musical accompaniment. Neurosci Behav Physiol,29(2),197-204. 12. SIEDLIECKI, S.L. & GOOD, M. 2006 JUN. Effect of music on power, pain, depression and disability. J Adv Nurse, 54(5),553-62. 13. NILSSON, U., UNOSSON. M. & RAWAL, N. 2005 FEB .Stress reduction and analgesia in patients exposed to calming music postoperatively: a randomized controlled trial. Eur J Anaesthesiol, 22(2), 96-102.