A STUDY TO ASSESS THE EFFECTIVENESS OF MUSIC THERAPY ON HYPERTENSION AMONG NEUROLOGICAL PATIENTS IN SELECTED HOSPITALS OF GUWAHATI, ASSAM

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Summary

Hypertension is one of the most common worldwide diseases afflicting humans and is a major risk factor for neurological diseases such as stroke. Due to the associated morbidity and mortality and cost to society, preventing and treating hypertension is an important public health challenge.

Purpose of this study to investigate the effectiveness of music therapy on hypertension among neurological patients in selected hospitals of Guwahati, Assam. **Methods and materials:**A pre – test post test control group design was used in this study to accomplish the objectives. Purposive sampling technique was used for obtaining the adequate sample for the study. Study was undertaken on 30 neurological patients with hypertension aged ≤30 – ≥ 51 years of selected hospitals of Guwahati. **Results :** The mean of pre test blood pressure score of control and experimental were 144.8 and 153.1. The mean of post test blood pressure score of control and experimental were 139.7 and 139 respectively. The music therapy was proved effective as tested by difference between mean "t" test at 0.01 level of significance as the calculated value of "t" was 12.62 which greater then tabulated value (2.46) so, was highly significant at 0.01 % level. **Conclusion** Music therapy is effective in reduction of blood pressure of neurological patients with hypertension. Music therapy can be used as a cost effective non pharmacologic measure for blood pressure reduction in order to reduce the burden of hypertension in neurological patients.

Keywords: Neurological patients with hypertension, music therapy

INTRODUCTION

Music has the power to hold attention, challenge the intellect and modify one's emotional state. Hippocrates the father of medicine have taken his patients sufferings from mental illness to the temple of Ascalapius to listen to the stirring music therapy. Studies found the possibility of a marked but variable effect on heart rate, blood pressure, respiration rate and endocrine functions. A number of studies have suggested that non-drug based methods of intervention including music therapy have therapeutic effects on vital signs of patients with different disorders such as anxiety or essential hypertension.

As per the World Health Statistics 2012, of the estimated 57 million global deaths in 2008, 36 million (63%) were due to non communicable diseases (NCDs). The largest p roportion of NCD deaths is caused by cardiovascular diseases (48%). In terms of attributable deaths, raised blood pressure is one of the leading behavioral and physiological risk factor to which 13% of global deaths are attributed. Hypertension is reported to be the fourth contributor to premature death in developed countries and the seventh in developing countries.

The prevalence of hypertension in the last six decades has increased from 2% to 25% among urban residents and from 2% to 15% among the rural residents in India. According to Directorate General of Health Services, Ministry of Health and Family Welfare, Government of India, the overall prevalence of hypertension in India by 2020 will be 159.46/1000 population. (10)

Assam has an alarming incidence of brain stroke. A study conducted in 2006 had found that 270 people out of every lakh suffer brain stroke in the state every year, which is the highest in the country. The study found that 40% of the total cases of stroke could be attributed with to hypertension alone, 20% to hypertension and diabetes, 10% to hypertension and other risk factors and 5% to diabetes and heart diseases. The Nurse plays an important role in management of the neurological patient with Hypertension. The nursing care for patient with hypertension is critically important. Considering the increasing magnitude of the population affected by hypertension, it is an important challenge for the Nurses in all health care settings to provide effective care.

Purpose : Purpose of this study to investigate the effectiveness of music therapy on hypertension among neurological patients in selected hospitals of Guwahati, Assam.

Objectives **1.**To assess blood pressure reading before and after administration of music therapy in experimental group among neurological patients in selected hospitals of Guwahati, Assam.

2. To assess blood pressure reading in control group among neurological patients in selected hospitals of Guwahati, Assam. 3. To assess the effectiveness of music therapy on hypertension among neurological patients in selected hospitals of Guwahati, Assam. **4.** To find the association between blood pressure reading with selected demographic variables such as age and duration of hypertension.

Methods

Design: In this study, a pre-test post-test control group design was used to assess the effectiveness of music therapy on hypertension among neurological patients with hypertension of selected hospitals of Guwahati, Assam.

Setting: study was conducted in Guwahati Neurological Research Center

Sample: In this study, the samples were the neurological patients with hypertension admitted at selected hospitals of Guwahati, Assam, who fulfilled the inclusion criteria. The sample size were 30. In purposive sampling a sample is chosen which is thought to be typical of the universe with regards to the characteristics under investigation

TOOLS AND TECHNIQUES: In this study**,** sphygmomanometer was used to measure blood pressure; observation checklist was used to assess the effectiveness of music therapy on hypertension among neurological patients and music therapy

The technique used was interview method and biophysical measurement of blood pressure was measured to evaluate the effectiveness of music therapy on hypertension among neurological patients with hypertension.

ETHICAL CONSIDREATIONS: Ethical permission to proceed with the study was taken from ―Independent Ethical Committee‖, GNRC (INS Trust) Permission was taken from concerned authorities of selected hospitals to carry out the study.

Nature of the study and the purpose was explained to the samples or significant others (where ever applicable) and written informed consent was obtained.

Data collection procedure: Data collection was done at the selected hospital. 30 samples were selected on the basis of inclusion criteria and by using purposive sampling technique. After getting permission, the investigator checked the occupancy list to find out the neurological patients with hypertension. With reference from the occupancy list, the investigator visited the several wards and assessed for patients whose condition demands for minimal 5 days of hospital stay. After that the investigator met the incharges of the respective wards and explains regarding the research study. After getting permission from incharges the investigator met the neurological patients with hypertension.

Results

MAJOR FINDINGS OF THE STUDY

The major findings of the study were as follows:

Demographic Data : Age: Majority 15 (50%) participants belonged to more than 51 years of age. **Gender:** Majority of the sample were male 22 (73.3%). **Duration of hypertension**: 10(33.3%) participants had 5 -10 Years duration of hypertension. **Antihypertensive drugs**: Majority 12 (40%) participants were on calcium channel blocker. **Intake of alcohol**: Majority 22(73.3%) participants did not take alcohol. **Smoking habits**: Majority 35(83.3%) participants did not have smoking habits. **Diagnosis**: Majority 29 (96.3%) participants had stroke

Experimental group's mean pre -test blood pressure reading was 153.1 mmHg and mean post-test blood pressure reading was 139.7 mmHg. **C**ontrol group's mean pre -test blood pressure reading was 144.8 mmHg and mean post -test blood pressure reading was 139 mmHg

Assessment of the effectiveness of music therapy among neurological patients with hypertension in selected hospitals of Guwahati, Assam.

I. The calculated value of ―t‖ is 10.96 which is higher than tabulated value 2.62 at 0.01 level of significance .So, H01 is rejected and the hypothesis H1 is accepted .It indicates that the mean post- test B.P. reading is significantly lower than mean pre- test B.P. reading in control group.

II. The calculated value of ―t‖ is 34.35 which is higher than tabulated value 2.62 at 0.01 level of significance .So, H02 is rejected and the hypothesis H2 is accepted .It indicates that the mean post -test B.P. reading is significantly lower than mean pre -test B.P. reading in experimental group.

III. The calculated value of ―t‖ is 12.62 which is higher than tabulated value 2.46 at 0.01 level of significance .So, H03 is rejected and the hypothesis H3 is accepted .It indicates that the mean post -test BP reading of neurological patients with hypertension in experimental group is significantly lower than the mean post- test BP reading of neurological patients with hypertension in control group

Association of blood pressure reading with selected demographic variables. There was no association between age and duration of hypertension with blood pressure score.

Discussion

This study revealed that the mean post -test B.P. reading is significantly lower than mean pre -test B.P. reading in experimental group and the mean post -test BP reading of neurological patients with hypertension in experimental group is significantly lower than the mean post- test BP reading of neurological patients with hypertension in control group .This study supported by the study **Merakou S et.al (2008)** conducted a retrospective case series with 203 patients who underwent ophthalmic procedures were obtained from patient records. Blood pressure, heart rate, and respiratory rate measured in the preoperative holding area were compared with the same parameters taken in the operating room, with and without exposure to live piano music. 115 patients who were exposed to live piano music showed a statistically significant decrease in mean arterial blood pressure, heart rate, and respiratory rate in the operating room compared with their vital signs measured in the preoperative holding area ($P < .0001$). The

control group of 88 patients not exposed to live piano music showed a statistically significant increase in mean arterial blood pressure (P < .0002) and heart rate and respiratory rate (P < .0001). **(**2)

Implications for clinical practice:

- Nurses can incorporate music therapy as a nursing intervention for patients with hypertension.
- Nurses can put greater emphasis on the complementary therapy to maintain good health.

RECOMMENDATION FOR FUTHER RESEARCH

- A comparative study may be conducted to assess the effectiveness of music therapy in different age group of patients.
- A comparative study may be conducted to assess the effectiveness of music therapy and any other therapy on hypertension.

CONCLUSION

A total of 30 neurological patients with hypertension responded. Out of 30 respondents majority 15 (50%), were in the age group of more than equal to 51 years, majority 22 (73.3%) were male, 10 (33.3%) had 5 -10 years duration of hypertension, 13 (43.3%) were on calcium channel blocker, 22(73.3%) did not consume alcohol, 25(83.3%) did not have smoking habits, 28(93.3%) were diagnosed with stroke. The mean of pre- test blood pressure score of control and experimental were 144.8 and 153.1. The mean of post -test blood pressure score of control and experimental were 139.7 and 139 respectively. The music therapy was proved effective as tested by difference between mean ―t‖ test at 0.01 level of significance as the calculated value of ―t‖ was 12.62 which greater then critical value (2.46) so, was highly significant at 0.01 % level. So, it music therapy was effective in blood pressure reduction of neurological patients with hypertension. There was no association between age and duration of hypertension with blood pressure score.

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