

Impact of Ahibhairav Raga on Hypertension among Primary Educators in Selected Schools at Puducherry

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Abstract

Introduction: Relaxation of the body and mind is essential for a health life. The high prevalence of hypertension in the general population makes the identification and treatment of affected patients, a top priority for clinicians. Music therapy is the clinical evidence on quality of life and the blood pressure of hypertensive patients.

Objectives: To assess the pretest level of blood pressure among primary educators with hypertension, to assess the impact of ahibhairav raga among primary educators with hypertension, to associate the impact of ahibhairav raga on blood pressure with the selected demographic & clinical variables.

Methodology: Data collection proceeded with prior permission and consent from the concerned. Purposive sampling technique was used for the selection of sample from different schools in puducherry. Then the primary educators were given prerecorded music CD which for 20-30 minutes for experimental group. The music therapy was continued in the consecutive days in the morning session with five session of music therapy again the blood pressure was assessed during the post test.

Findings: The research findings revealed that the level of Hypertension after ahibhairav raga was pre Hypertension 3(7.5%), Hypertension stage 1 is 24(60%), and Hypertension stage 2 is 13 (32.5%). The comparison of mean, standard deviation, mean difference, t-value, and 'p' were used to assess the value of post level of blood pressure in the experimental group. The pre-test blood pressure and post test blood pressure which clearly reveals the effectiveness of ahibhairav raga in reducing the blood pressure. Demographic variables of the primary educators like history of hypertension with relationship is statistically associated with stages of hypertension at p value <0.05.

Conclusion: The study findings will enable the nurses to plan and implement health education programme regarding the prevention of hypertension and its various treatment modalities in future.

1. Keywords: Ahibhairav Raga; Hypertension; Impact; Primary Educators

2. Introduction

Relaxation of the body and mind is essential for a healthy life. The prevalence of hypertension has been increasing in developing countries; and community surveys have documented that it is more prevalent among the Indians between the third and sixth decades of their life. Hypertension is a major modifiable risk factor for cardiovascular disease, which accounts for 57 and 24% of all deaths due to stroke and coronary heart disease respectively.. Blood pressure is a continuous physiologic trait, which when increases, is called “the silent killer” because people who have it are often symptoms free. Prolonged blood pressure elevation eventually damages blood vessels through the body. The high prevalence of hypertension in the general population makes the identification and treatment of affected patients, a top priority for clinicians.

According to WHO 2002, 600 million people are estimated to be affected with hypertension worldwide and hypertension causes five million premature deaths each year world- wide. Hypertension causes 13% of global fatalities. Based on the statistics given by National Heart, Lungs and Blood Institute 2010, the incidence of the primary hypertension was 300 new cases annually and in India the estimated undiagnosed prevalence is about 58,735,609 and the diagnosed cases is about 195,785,035 annually. Nearly seventy percent of the diseases have their roots in stress. Nervous breakdowns, high blood pressure, depression, heart disease and ulcers are on the rise. There are many ways to remove the stress (Mumbai Today, 2002). In the advancing world there are lots of relaxation techniques like yoga, meditation, breathing exercise, laugh therapy and music therapy for reducing stress, which is a risk for hypertension.

In this modern world stress is increasing day by day. Stress leads to hypertension. According to World Health Organization (2009) 26.4% of adults in the world and 24.6% in India are suffering from hypertension. Prevalence of hypertension in industrialized countries is 25% & mostly affected is adult population. According to K. PARK (2007) [1], hypertension is one of the major risk factor for cardiovascular mortality, which accounts for 20 to 50% of all deaths in India. In this 21st century the attention is focused on alternative therapies like relaxation, meditation, laugh therapy, aroma therapy, and music

therapy along with pharmacological management. But the statistical evidence for music therapy is not widely documented. Hence to create empirical evidence the investigator brought forth the need of conducting a study on effectiveness of music therapy among hypertensive school teachers.

Kuhlmann et.al 2016 a systematic review and meta-analysis of music interventions in hypertension treatment. Adverse effects, treatment resistance and high costs associated with pharmacological treatment of hypertension have led to growing interest in non-pharmacological complementary therapies such as music interventions. This meta-analysis aims to provide an overview of reported evidence on the efficacy of music interventions in the treatment of hypertension. A systematic literature search was conducted for publications on the effect of music interventions on blood pressure in adult hypertensive subjects published between January 1990-June 2014. Randomized controlled trials with a follow-up duration ≥ 28 days were included. Blood pressure measures were pooled using inverse variance weighting. Of the 1689 abstracts reviewed, 10 randomized controlled trials were included. Random-effects pooling of the music intervention groups showed a trend toward a decrease in mean systolic blood pressure (SBP) from 144 mmHg(95 % CI:137–152) to 134 mmHg(95 % CI:124–144), and in mean diastolic blood pressure (DBP) from 84 mmHg(95 % CI:78–89) to 78 mmHg(95 % CI:73–84). Fixed-effect analysis of a subgroup of 3 trials with valid control groups showed a significant decrease in pooled mean SBP and DBP in both intervention and control groups. A comparison between music intervention groups and control groups was not possible due to unavailable measures of dispersion. The systematic review and meta-analysis revealed a trend towards a decrease in blood pressure in hypertensive patients who received music interventions, but failed to establish a cause-effect relationship between music interventions and blood pressure reduction. Considering the potential value of this safe, low-cost intervention, well-designed, high quality and sufficiently powered randomized studies assessing the efficacy of music interventions in the treatment of hypertension are warranted.

2.1. Objectives

- To assess the pretest level of blood pressure among primary educators with hypertension.
- To assess the effectiveness of ahibhairav raga among primary educators with hypertension in selected schools at Puducherry.

- To associate the impact of ahibhairav raga on blood pressure with the selected demographic variables

3. Methodology

True experimental research design (one group pre-test –post-test design) used in this study. Primary educators with hypertension were the target population. The settings of the study were conducted in the Bahour area Puducherry schools. Sample size 40 was selected by purposive sampling technique. The tool consists of three parts demographic variable, clinical variables and Evaluation of blood pressure to assess blood pressure before and after ahibhairav raga.

3.1. Research Approach

Quantitative research approach was adopted for the study as it was intended to assess the effectiveness of ahibhairav raga on hypertension among primary educators in selected schools at puducherry.

3.2. Research Design

True experimental research design (one group pre-test –post-test design) was selected to achieve the objective and to fulfill the need for the study.

3.3. Study Settings

In Puducherry, the investigators selected government schools in Bahour area, which is 7 km away from Puducherry.

3.4. Population

Primary educators with hypertension were the target population for this study.

3.5. Sample and Sample Size

Teachers with hypertension and those who fulfilled the inclusion criteria during the period of study were selected as samples. The sample size 40 school teachers with hypertension.

3.6. Inclusion and exclusion criteria

➤ Inclusion criteria

- Both male and female.
- Primary educators above 30 years.
- Primary educators who can understand Tamil or English.

➤ Exclusion criteria

- Primary educators with physical disabilities.
- Primary educators not willing to participate in this study.

3.7. Sampling Technique

Samples who met the criteria during the data collection period was selected by using purposive sampling technique.

3.8. Procedure for Data Collection

Data collection period was 4 weeks. Before starting the data collection, researchers obtained permission from the Education Department from Puducherry. The sample was selected based on inclusion criteria. 40 hypertensive primary educators were selected through purposive sampling technique. Demographic profiles were distributed to the selected samples and collections who satisfied the inclusion criteria were selected for 5 days, using purposive sampling technique. Blood pressures of the primary educators were assessed and ahibhairav raga was given to the school teachers. The primary educators were asked to hear the ahibhairav raga for 20 minutes, the blood pressure monitored on first day before therapy given day and after collected demographic profile from the primary educators

4. Results

S.No	Demographic variables	Frequency (n)	Percentage (%)
1.	Age in years		
	≤ 30 years	7	17.5
	31-40	13	32.5
	41-50	14	35

	> 50	6	15
2.	Sex		
	Male	17	42.5
	Female	23	57.5
3.	Religion		
	Hindu	37	92.5
	Christian	3	7.5
	Muslims	0	0
4.	Residential area		
	Rural	16	40
	Urban	24	60
5.	Family monthly income		
	Below Rs 5000	0	0
	Rs 5001 to 1000	0	0
	Rs1001 to 15,000	0	0
	Above Rs 15,000	40	100
6.	Marital status		
	Single	0	0
	Married	40	100
	Widow/widower	0	0
	Divorced	0	0
	Separate	0	0
7.	Family history of hypertension		
	Yes	25	62.5
	No	15	37.5
	If yes specify with relationship		
	Father	14	35
	Mother	8	20
	Grandparents	1	2.5
	Uncle/aunts	0	0
	Sibling	1	2.5
	None	15	37.5
8.	Pursuing any unhealthy habits		
	Smoking	0	0
	Alcoholism	0	0
	Drug abuse	0	0
	Tobacco and betel leaves	0	0
	Pan	0	0
	None	40	100
9.	Dietary habits		

	Tinned/ canned foods	2	5
	High spicy foods	14	35
	High oily foods	8	20
	None	16	40
10.	Body mass index		
	<8.5	0	0
	18.5-24.9	1	2.5
	25-29.9	20	50
	30-39.9	19	47.5
	>40	0	0

Table 1: Impact of ahibhairav raga in reduction of blood pressure among hypertensive primary educators in pre-test and post-test.

N=40

Level of Hypertension	Mean	
	Pre-Test	Post-Test
Systolic Blood Pressure	156.2250	151.1750
Diastolic Blood Pressure	97.6750	93.8750
Blood Pressure	117.1917	112.9750

Table 2: shows the level of hypertension before and after ahibhairav raga. The mean value of pre-test score of Pre-hypertension was 156.2250, hypertension stage-I was 97.6750, and the Hypertension stage-II, was 117.1917. Before the implementation of ahibhairav raga. The mean value of post-test score of pre-hypertension was 151.1750, hypertension stage-I was 93.8750 and the hypertension stage –II was 112.9750 after the implementation of ahibhairav raga it was attributed to the impact of ahibhairav raga in decreasing the level of hypertension.

S. N O	Demographic Variables and clinical variables	Systolic blood pressure	Diastolic blood pressure	Blood pressure	Total	Chi-square	p-value
1.	Residential area	a) Rural	0	7	9	1.806	0.405 *S
		B) Urban	1	14	9		
2.	Hereditary	a) Father	0	7	7	42.44	<0.001* S
		b) Mother	0	4	4		
		c) Grand parents	0	0	1		
		e) Siblings	0	1	0		
		f) None	0	9	6		
3.	Dietary Habits	a) Tinned/canned foods	0	1	1	7.415	0.284 * S
		b) High spicy	1	10	3		

		foods						
		c) High oily foods	0	2	6	8		
		d) None	0	8	8	16		
4.	Past History	a) YES	0	9	12	21	3.961	0.411 *S
		b) NO	1	12	6	19		
5.	Salt intake	a) Less intake	0	8	12	20	4.554	0.336 *S
		b) High salt intake	0	2	1	3		
		c) Normal salt intake	1	11	5	17		

Table 3: Association of blood pressure among primary educators with demographic variables and clinical variables.

The association between the blood pressure and selected demographic factors of school teachers with hypertension. It is evident that the demographic variables such as residential area, history of hypertension with relationship, dietary habits, duration of illness, co-morbid illness, past history, and salt intake has a significant association with blood pressure in school teachers with hypertension because the “p” values less than 0.5 whereas the other demographic variables had no significant association with the level of hypertension because the “p” value is more than 0.5.

5. Conclusion

The study concluded that out of 40 samples, each primary educator’s had a mild reduction in their blood pressure values after the implementation of ahibhairav raga when compared to their pretest score. This shows that the regular practice of music therapy help to reduce hypertension. The study findings will enable the nurses to plan and implement health education programme regarding the prevention of

hypertension and its various treatment modalities for the hypertensive primary educators in the schools at, puducherry, this will help them to prevent further complications and ultimately our nation will be healthy in future.

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