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Influence of Music Therapy on Hypertension

Anjali Devi C

Professor, Department of Food & Nutrition, Osmania University, Hyderabad, India

Abstract: ***Cardiovascular diseases and diabetes are on the increase in India. Major cause of this chronic problem is considered as stress and emotional instability, apart from other causes. Studies have indicated that music therapy can reduce stress. Therefore music therapy is used on patients with blood pressure to see its effect. All patients with blood pressure were identified from hospitals, clinics and houses in Hyderabad. 140 male patients aged 45- 60 years who agreed to follow the program were randomly selected, divided into two groups. First group formed the experimental group; they were advised to follow a regular medical protocol, diet and exercise. Music therapy in the form of listening to songs for 40 minutes daily as approved by music therapist were given to them. The second group is the control group, they were allowed to follow the regular medical protocol without music. Blood Pressure was recorded once every week for a period of three months (12 weeks). Results indicated a consistent decrease in blood pressure levels for 210mm/Hg/100 to 120/Hg/80 in the experimental group were more stable and are relaxed. In the control group although there is a decrease in blood pressure probably due to medication form 210mm/hg/100 to 140 to /80 there is no consistency in the decrease. In the experimental group there is a clear indication of the influence of music on BP levels compared to control group.***

Keywords: Blood Pressure, medical regime, music therapy, experimental, control group

1. Introduction

Heart attacks come if mind is bad. If we take care of mind, heart can be taken care. (1) Stress, strain and anxiety coupled with changing lifestyles can cause changes in mind (brain), can lead to Hypertension. Hypertension is one of the leading risk factors influencing morbidity and mortality. Music is known to reduce anxiety and holds promise for non-pharmacological management of hypertension, low cost, ease of administration and safety (2). Ways of relieving stress are regular exercise, yoga, breathing exercises or listening to music. Music therapy, a listening program is reported to filter classical music to improve ear function. Of the twelve cranial nerves, 10 nerves are linked to the ear, indicating the importance of musical sounds to nervous system(3). Listening to yoga music at bedtime is god for heart (4).Music therapist uses different components of music for bringing positive changes. Music therapy acts at the psychosocial level which in turn help in physical, mental and spiritual well-being of the patient, helps in re-alignment of negative thoughts such as fear, anger, depression, hatred, jealousy, helplessness etc. In positive emotions, music therapy helps the patient becoming emotionally stronger, confident and optimistic towards life. (5).Music therapy, proved to increase immuno-globin A, lowering the production of cortisol–the hormone causing stress, helps in controlling hyperglycemia, stabilizes blood pressure and pulse, metabolism and digestion, prevents secondary complications by improving immunity and risk for infections (6,7) Music therapy works on the principle of coordination between the beats of music and that of heart rate, it brings a soothing effect on the body, mind and soul. Rhythms that are below normal heart rate create calmness and tranquility while rhythms above heart rate create excitement and exhilaration. Specific ragas in Carnatic and Hindustani music are reported to help in healing diseases like obesity, diabetes, asthma, prenatal asthma, autism, acidity, arthritis, obesity, prenatal development, language development, behavior, life style and mental disorders. (8-11).

In the light of the various studies which are done in India and abroad the studies on Hypertension and music therapy are scanty. Therefore, the objective of the present study is to assess the impact of music therapy on Hypertension.

2. Methodology

Hospitals and clinics in Hyderabad were surveyed. Patients with high blood pressure were listed. Exclusions are patients with BMI 25-30, with renal impairment, diabetes, stroke, epilepsy, hearing problems, psychiatric disorders, other cardiovascular and respiratory problems or any other problem which is known to affect blood pressure of the individual. The current information on the clinical study was explained to the patients, their families, caregivers, healthcare professionals and the public about the length of the study and the protocol to be followed. After taking their cognizance, the subjects were registered in the study. One hundred and forty males aged 45-60 years were selected from the 2859 patients screened.

Participants were instructed to follow their regular schedule (taking medicines ,prescribed diet and walking for one hour). To this schedule music therapy was added. 6 songs approved by music therapist were selected and patients were asked to listen for 40 minutes every day preferably in the morning. The participants were contacted daily to ensure that they were listening to music. After one week some of the participants expressed that they did not like the songs given to them they wanted to listen to the songs they like. The songs chosen by them were referred to the music therapist and after approval from second week onwards they were given the option to opt for the songs of their choice. Blood Pressure levels are recorded every week for three months using digital BP machine. It was validated against a standard sphygmomanometer before taking weekly readings. The readings were counter checked with their medical records, corrections were made if necessary.

3. Results and Discussion

The blood pressure levels at the time of registration (initial readings) shows that the systolic pressure is 280/120 mm/Hg and the diastolic pressure is 120 mm /Hg both in the experimental and control groups (Table 1).After 12 weeks of implementation of music therapy, final readings in the experimental group is 120/ 80 mm/Hg while in the control group it is 150/90mm/Hg..

A consistent decrease in the systolic and diastolic readings is observed in the experimental group. By 4^{th} week it is 170/100 mm/Hg , in the 8^{th} week is 150/80 and 12^{th} week it is 120/100 mm/Hg , while in the control group the values are 210/90,180/100 150/90 mm/Hg for 4^{th} , 8^{th} and 12^{th} week respectively. Fluctuations in the levels of systolic and diastolic pressures, were monitored with relevant medication. Percentage of patients in different ranges of systolic and diastolic pressure among the experimental group is given in Table 2. Initially 26.7 percent are with systolic blood pressure < 220mm/Hg while in the highest range, above 300mm/Hg percentage is 11.1.Patients with diastolic pressure less than 100 are 20 percent and in the range of 121- 130 mm/Hg it is 1.1percent.

After 12 weeks the final findings indicated a significant decrease both in systolic and diastolic pressure. 85.5 percent the systolic blood pressure was at 120mm/Hg, only 1percent with 110 mm/Hg level and 13.4 percent in the 130mm/Hg level. With respect to diastolic pressure most of them (64.4 %) are in the range of 76-80 mm/Hg, those in 70-75mm/Hg range are 16.7 percent and only 2.2 percent are in the higher range of 86-90 mm/Hg.

Brian Harris certified neurologic music therapist at the Harvard affiliating sparkling rehabilitation hospital said, “There is no other stimulus on earth that simultaneously engages our brains as widely as music does. This global activation happens whether you listen to music or play an instrument or sing”. The findings of the present study aptly fits into the observation of the renowned music therapist.

4. Conclusion

Along with music, there are other modifiable risks like - medical therapy, cessation of smoking, reduction of overweight and obesity (waist level > 102cm or >40 inches), Physical inactivity - depending on age and health status, high intake of saturated fatty acids and high salt intake Recommendation is that diets high in fruits, vegetables, whole grains and unsaturated fatty acids should be encouraged.

Ancient studies indicated that there are countries, which have recognized music as a therapy. Chinese charter for medicine includes the charter of music, Ancient Greece used music to ease stress, and promote sleep. Native Americans and Africans used singing and chanting as part of healing rituals. The positive impact of music therapy on relieving stress levels ,which has significantly contributed to better health besides being cheap, easy to administer, and does not have any negative effect, the statistics stating that the stress related health problems are on the increase globally, time has come to recognize music therapy.

Music as a Therapy (music therapy) needs to be included as part of Medical Therapy.

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Table 1: Average Blood Pressure Levels of Experimental and Control Groups

Weeks	Experimental Group		Control Group	
	Hg/mm pressure		Hg/mm, pressure	
	Systolic	Diastolic	Systolic	Diastolic
Initial	220	120	230	120
1st	200	120	210	120
2nd	180	120	180	100
3rd	170	110	210	90
4th	160	90	200	100
5th	160	80	200	90
6th	160	80	190	90
7th	150	80	180	100
8th	155	80	170	90
9th	140	80	180	90
10th	130	80	170	90
11th	130	80	150	90
12th	120	74	140	90

Table 2: Distribution of Patients into Systolic, Diastolic Pressure Ranges

Systolic Pressure mm/Hg					
Initial Values			Final Values		
Range	No	%	Range	No	%
<220	24	26.7	110-120	1	1.1
221-240	18	20	121-130	77	85.5
241-260	9	10	>131	12	13.4
161-280	20	22.2			
281-300	9	10			
>300	10	11.1			
Total	90	100	Total	90	100
Diastolic Pressure mm/Hg					
Range	No.	%	Range	No	%
<100	18	20	70-75	15	16.7
101-110	26	28.9	76-80	58	64.4
111-120	45	50	81-85	15	16.7
121-130	1	1.1	86-90	2	2.2
Total	90	100	Total	90	100