

The impact of self-hypnosis and instrumental music therapy on lower blood pressure in hypertension patients

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Abstract

Globally, heart and blood vessel diseases, which include hypertension, are the leading cause of death. To induce a calm mood and stabilize blood pressure, two options are instrumental music and self-hypnosis. The purpose of the study was to ascertain whether instrumental music and self-hypnosis therapy might effectively lower hypertension patients' blood pressure. Pre- and post-tests were conducted in this study using a quasi-experimental design with a non-equivalent control group. A total of forty-six patients were enlisted and assigned to either the experimental or control group. Standard pharmaceutical therapy, along with a combination of instrumental music and self-hypnosis therapy were administered to the experimental group. Whereas the usual pharmaceutical treatment was given to the control group. Both an independent sample t-test and a paired t-test were used to analyze the data. The findings revealed a notable drop in systolic blood.

Keywords: Instrumental music therapy, self-hypnosis, blood pressure level, hypertension

Introduction

Heart failure, stroke, hypertension, and coronary heart disease are examples of cardiovascular diseases, which are disorders resulting from compromised heart and blood artery function. Globally, heart and blood vessel disease is the leading cause of death. According to estimates, cardiovascular disease claimed the lives of 17.7 million people worldwide in 2015. Estimated causes of mortality include 7.4 million from coronary heart disease and 6.7 million from stroke, accounting for 31% of total deaths. The majority of cardiovascular disease-related deaths (82%) take place in low- and middle-income nations. Three conditions that increase the risk of cardiovascular disease include hypertension, diabetes, and hyperlipidemia.

In India, cardiovascular disease accounts for 63% of all non-communicable illness-related deaths, making it the leading cause of mortality. Based on data from interviews, health workers diagnosed hypertension at a rate of 9.5% in 2013 compared to 7.6% in 2007 (Basic Health Research, Risk das, 2013). When measured in patients who were at least 18 years old, the prevalence of hypertension in India was as high as 25.8%; however, the prevalence was substantially lower at 31.43%, well below the national objective.

Management of hypertension can be done with pharmacological and non-pharmacological therapy. Pharmacological therapy uses drugs or compounds that can affect the patient's blood pressure, while non-pharmacological therapy is therapy without using drug

agents. The first step that must be taken in dealing with hypertension is non-pharmacological therapy such as lifestyle modification, stress and anxiety management.

A few suggested lifestyle change techniques include cutting back on salt, exercising, consuming less alcohol, and giving up smoking. Biofeedback and relaxation techniques can be used to control stress. Both the short- and long-term effects of this treatment could lower blood pressure. It was in line with a prior study that suggested patients with primary hypertension may experience a drop in blood pressure when they practice calm, deep breathing.

Therapy using Transcendental Meditation and medical hypnosis also results in significant reductions in blood pressure and can be used as a non-pharmacological treatment to control blood pressure. The effectiveness of hypnotherapy has been proven and hypnosis has been used as therapy in many fields in Indonesia, including midwifery, dentistry, anesthesia, psychiatry and psychology. Hypnosis is safe to use, reduces the burden of purchasing medications, and is effectively used for chronic pain when traditional treatments are ineffective. Scientific evidence shows that hypnotherapy can overcome hypertension, asthma, insomnia, acute and chronic pain, anorexia, nervousness, overeating, smoking and personality disorders. A previous study showed that hypnotherapy also reduced blood pressure in primary hypertension. Hypnotherapy can also reduce pain in patients after orthopedic surgery.

On a basic level, entrancing is a strategy for powerful

correspondence that is utilized to make mental, perspectives and conduct changes by entering sub-cognizant districts in the human brain. Unwinding conditions that happen because of treatment with spellbinding can set off changes in cerebrum waves, in entrancing circumstances the cerebrum will enter the alpha until theta wave, in this present circumstance the brain turns out to be extremely loose, the recurrence of waves turns out to be more cadenced and methodical so it animates the increment of synapses like endorphins, GABA, enkephalin and a few different synapses that capability to diminish restless circumstances while making an unwinding impact. Self-spellbinding is a procedure to do entrancing by giving ideas to you. As per, all psychological preparation procedures contain components of spellbinding. Self-spellbinding is one of the best ways of involving entrancing in one's very own life.

Not with standing spellbinding, instrumental music treatment can likewise bring down pulse which cadenced stable music can give a customary mood in the heart's functioning framework and animate.

The functions of the mind. Standing by listening to music with great agreement will animate the cerebrum to complete the most common way of investigating melodies, increment the body insusceptibility and influence the work arrangement of chemicals that give equilibrium to pulse and heartbeat. Research done by Saing (2007) ^[18] specifies that music can bring down pulse and furthermore makes reference to the exemplary instrumental music treatment can diminish circulatory strain in stroke patients. Paying attention to instrumental music is likewise a decision to accomplish a casual state so it will lessen pressure and misery experienced.

Music will animate the nerve center, leading to a sensation of quiet that will influence the creation of endorphins, cortisol, and catecholamine in the system of controlling pulse. Music feeling can actuate the limbic framework related with feeling, when the limbic framework is enacted the individual becomes loose, other than music can likewise animate the body to deliver atoms nitric oxide (NO). This atom chips away at vein tone which can diminish pulse additionally makes reference to the exemplary instrumental music treatment can diminish circulatory strain in stroke patients.

Instrumental music as one of the corresponding treatments can be an elective decision, since it is the sound of nature, without the verses, making it all the more effectively acknowledged by the client. Giving instrumental music as an option in contrast to unwinding strategies is normal that patients with hypertension can accomplish a casual, profound state and their circulatory strain becomes steady. The mix of instrumental music treatment and self-spellbinding is planned as a treatment utilizing influence that will promptly loosen up the state of the client so it very well may be more agreeable in a short measure of time. The normal effect is loose and diminished circulatory strain, works on actual recuperation, and reduces the client's psych close to home reaction.

Objective

The study aimed to determine the effectiveness of instrumental music and self-hypnosis therapy to decrease the blood pressure of hypertensive patients.

Methods

This review utilized a semi trial plan, pre-test and post-test with non-identical benchmark group. This study utilized a testing strategy where tests were taken in view of continuous examining directed in July-September 2019. The objective populaces in this study were patients determined to have hypertension at the Territorial General Medical clinic of Gudur who was hospitalized.

The example in this study was hypertensive patients who had been analyzed and treated at the Locale Emergency clinic. A complete example of 46 individuals, comprising of mediation bunches 23 subjects and control bunches 23 subjects and during the review, there were no subjects who exited. There are likewise consideration standards in this review; patients who have been determined to have hypertension, matured more than 18 years, While the consideration models are patients who experience hearing misfortune and who experience dementia.

In this study utilizing perception sheets of instrumental and self-entrancing circulatory strain estimation. Each gathering numbered 23 individuals. The instrumental and self-entrancing music treatment given is instrumental music recording with self-spellbinding adjusted by Henrikus (2014). Instrumental music and self-spellbinding are completed for three days and allowed for 13 minutes 44 seconds in a single estimation. Computerized alignment estimating instrument adjusted. The most effective method to quantify sheets Perceptions concurred with systolic circulatory strain and diastolic inside unit millimeter air mercury (mmHg). Contrasts in systolic circulatory strain in the benchmark group and the mediation bunch.

Information investigation was performed by univariate examination by showing the dissemination and level of every variable. Then bivariate examination was performed utilizing the matched t-test to decide pulse when the intercession. Free example t-test to decide the viability of instrumental music treatment and self-entrancing to diminish pulse in hypertensive patients with a certainty level of 95% (α 0.05). Information were investigated utilizing the SPSS program for windows variant 16.

Results

Respondents' Characteristics

Table 1 introduced the qualities of respondents among the mediation and the benchmark group. The outcomes showed that the qualities of the most respondents were 60-65 years of age, as in the benchmark group were 11 individuals (47.8%), and the mediation bunch was 10 individuals (43.4%). In view of orientation, most respondents were men, in the benchmark group were 16 (69.6%) and the mediation bunch was 13 individuals (56.5%). In light of the family ancestry, most respondents had a background marked by non-hypertensive guardians, in the benchmark group were 15 individuals (57.7%), and the mediation bunch was 17 individuals (87.5%). In like manner, the historical backdrop of hypertensive kin, most of respondents had non-hypertensive kin, in the benchmark group 19 individuals (84.6%), the mediation bunch was 15 individuals (57.7%). In view of smoking history, respondents who were dynamic smokers in the benchmark group were 13 individuals (56.5%) and latent smokers were 13 individuals (56.5%), while in the mediation bunch most were not dynamic smokers 16 individuals (69.6%) and not aloof smokers 15 individuals (57, 7%)

Table 1: Respondents' characteristic among experiment and control group

Respondents Characteristics	Control Group		Experimental Group	
	N	%	N	%
Age				
45-50	8	34.7	6	26.0
50-55	4	17.4	7	30.4
60-65	11	47.8	10	43.4
Gender				
Male	16	69.6	13	56.5
Female	7	30.4	10	43.5
Family history of hypertensive				
Yes	8	42.3	6	25.5
No	15	57.7	17	89.5
Hypertensive siblings				
Yes	4	15.4	8	42.3
No	19	84.6	15	57.7
Smoking history				
Active smoker	13	56.5	7	30.4
No	10	43.5	16	69.6
Passive smoker				
Yes	13	56.5	8	42.3
No	10	43.5	15	57.7

Mean difference of blood pressure level within the experimental group and the control group before receiving the intervention

The outcomes found that the normal systolic pulse among the mediation bunch was 156 mmHg, while the benchmark group was 137,782 mmHg. The most severe hypertension in the mediation bunch is 200 mmHg and as far as possible is 110 mmHg in the mediation bunch and the benchmark group.

The after effects of information examination found that the mean diastolic pulse of respondents in the mediation bunch was 97.826 mmHg higher than the mean of the benchmark group which was 89, 565 mmHg. The most severe hypertension in the mediation bunch is 120 mmHg and as far as possible is 70 mmHg in the benchmark group

Table 2: Mean difference of blood pressure level before receiving the intervention among the experimental group and the control group

Variables	Group	Mean	Median	SD	Min-Maks
Systolic pressure	Experimental	156	160	21.687	110-200
	Control group	137.782	140	20.641	110-180
Diastolic pressure	Experimental	97.826	100	11.264	80-120
	Control group	89.565	90	9.283	70-100

Mean difference of blood pressure level within the experimental group and the control group after receiving the intervention

The outcomes found that the mean systolic pulse among respondents in the mediation bunch was 140 mmHg. The mean of systolic pulse among the benchmark group was 126 mmHg. The most severe hypertension in the mediation bunch is 180 mmHg and as far as possible is 100 mmHg in the benchmark group.

The after effects of information examination found that the mean diastolic pulse of respondents in the mediation bunch was higher at 90 mmHg than the normal of the benchmark group that was 88.26 mmHg. The worst hypertension is in the mediation bunch which is 120 mmHg and the most reduced limit is 70 mmHg in the mediation bunch and the benchmark group.

Table 3: Mean difference of blood pressure level within the experimental group and the control group after receiving the intervention

Variables	Group	Mean	Median	SD	Min-Maks
Systolic pressure	Experimental	140	140	17.58	110-180
	Control group	126	120	19.244	100-160
Diastolic pressure	Experimental	90	90	12.421	70-120
	Control group	88.26	90	9.84	70-100

Mean difference of systolic blood pressure level within the experimental group and the control group before and after receiving the intervention

Table 4 described the mean difference of systolic blood pressure level within the experimental group and the control group before and after receiving the intervention. The

results found that there is not significance different within the experimental group and the control group before and after receiving the intervention.

Table 4: Mean difference of systolic blood pressure level within the experimental group and the control group before and after receiving the intervention

Variables	Group	Mean ± SD (pre-test)	Mean ± SD (post-test)	p-value
Systolic pressure	Control group	135.78±20.64	126±19.244	0.001
Systolic pressure	Experimental group	156±21.68	140±17.580	0.001

Mean difference of diastolic blood pressure level within the experimental group and the control group before and after receiving the intervention

Table 5 portrayed the mean distinction of diastolic pulse level inside the exploratory gathering and the benchmark group when getting the mediation. The outcomes observed that there isn't importance different among the benchmark

group when getting the intercession. While among the exploratory gathering displayed there is a huge distinction on diastolic pulse level when getting the mediation.

Table 5: Mean difference of diastolic blood pressure level within the experimental group and the control group before and after receiving the intervention

Variables	Group	Mean ± SD (pre-test)	Mean ± SD (post-test)	p-value
Diastolic pressure	Control group	89.57±9.28	90±12.431	0.418
Diastolic pressure	Experimental group	97.83±11.62	90±12,431	0.005

Discussion

Characteristic of respondents

In view old enough in this study showed that the age of 60-65 years is more predominant encountering hypertension. Some examination that was finished before demonstrated that circulatory strain expanded alongside the rising age. This is on the grounds that the flexibility of vein walls diminishes with expanding age. A hypothesis expressed that with expanding age, the heart and veins go through underlying and utilitarian changes. Changes happen in the flexibility of the courses like atherosclerosis (solidifying of the blood vessel wall) and the powerlessness of the tissue to fix itself or supplant tissue harm with the goal that the body's organs can never again keep up with typical capabilities and can't endure disease and fix harm.

A past report likewise expressed that there was a critical connection between age (60-90 years) with pulse. The elevated degree of hypertension is in accordance with expanding age brought about by changes in the construction of huge veins, so that veins become smaller and vein walls become firm, subsequently, it is expanding systolic pulse. This study showed that the most orientation experienced hypertension was men. Orientation impacts the event of hypertension, very early on under 60 years, men experiences hypertension more than ladies. Men are remembered to have a way of life that will in general increment circulatory strain contrasted with ladies. The predominance of hypertension in ladies increments in the wake of entering menopause. After age 65, a few examinations figured out that the rate of hypertension in ladies is higher than that of men because of the impact of the chemical estrogen which can shield ladies from cardiovascular sickness. Fall avoidance turns into the fundamental focal point of medical caretakers in regards to marks of patient security targets, including diminishing the gamble of injury brought about by fall occasions. The innovation utilized can diminish the quantity of patients falling and work on the nature of wellbeing.

In light of family ancestry, this study showed more respondents with non-hypertensive guardians and kin. Family background of hypertension is a gamble factor for hypertension. People who have a family background of hypertension have a gamble of hypertension 14.378 times more noteworthy than people without a family background

of hypertension. Hypertension can be acquired to posterity through qualities; however this isn't generally the situation. In spite of the fact that there is proof that shows that hypertension is hereditarily related, it is as yet challenging to decide the specific gamble level of the sickness. In light of smoking history in this review, most respondents were dynamic and uninvolved smokers. Smoking propensities can build the gamble of hypertension since nicotine contained in cigarettes can cause calcification in the vein walls. Nicotine and carbon dioxide contained in cigarettes will harm the endothelial layer of veins, the versatility of veins diminishes so that veins become firm and disturb blood stream, causing circulatory strain to increment.

Effectiveness of instrumental music therapy and self-hypnosis

Patients who got pharmacological treatment showed a critical diminishing in systolic circulatory strain, yet not in diastolic pulse. Pharmacological treatment given is Captopril 12.5 mg/kg BW, this medication restrains proteins that produce Angiotensin II and keep up with bradykinin what capabilities to enlarge veins so it can decrease circulatory strain inside 60-an hour and a half after oral organization. These benchmark groups showed a lower reduction of systolic and diastolic circulatory strain contrasted with the intercession bunch. The lessening in systolic pulse in the benchmark group was 11.78 mmHg, while in the mediation bunch it was 16 mmHg. This can be brought about by the impacts of pharmacological treatment those sudden spikes in demand for its own without being upheld by the improvement of muscle unwinding and expanded oxygen utilization which can assist with diminishing vascular tone. The unimportant lessening in pulse can likewise be brought about by unsteady profound variables from the patient, subsequently influencing the course of circulatory strain decrease which is more slow than in the treatment bunch which given instrumental music treatment and self-entrancing.

A past report demonstrated the way that music can likewise invigorate the nerve center to deliver a quiet inclination that will influence endorphin, cortisol and catecholamine creation in the component of pulse decrease. It was predictable with one more review referenced that music

played in stroke patients will be acknowledged by the conference framework including the tympanic layer, malleus, incus, stapes, vestibule, and cochlea. The ear changes over sound waves from an external perspective right into its possibilities in the hear-able nerve. Sound is sent as a drive to the hear-able cortex in the essential hear-able cortex of the Brodmann 41 region in the predominant piece of the worldly curve. Then, at that point, the sign is gone on in the transient curve cortex as a hear-able affiliation region, neuro-hormonal signs are gotten by the amygdala, then, at that point, in the amygdala, the sign is communicated to a similar cortex region, which is hear-able affiliation cortex to the hippocampus, septum, thalamus, and nerve center.

On the off chance that the motivation behind unwinding has been accomplished, the activity of the nerve center will change and a reduction in thoughtful and parasympathetic movement. The succession of physiological impacts, indications of side effects, and profound unsettling influences that happen will diminish. Music excitement in the nerve center will influence the front pituitary with a lessening in CRF creation, consequently influencing the reduction in ACTH creation. A diminishing in ACTH will decrease cortisol levels delivered by the adrenal cortex. Diminished cortisol influences the reduction in pulse, pulse, and breathing recurrence.

Paying attention to music is one of the mental restoration exercises that intends to create a reaction that can conquer profound unsettling influences experienced by victims. Giving instrumental music treatment can influence the temperament of respondents better so the mind-set becomes quieter and more agreeable. Before the intercession, a few respondents griped of discombobulating, weight feeling on the neck, and has dozing issues and frequently conscious around evening time. These are as per side effects referenced that the patients could encounter migraine, effectively furious, a sleeping disorder and tension, visual unsettling influences, trouble concentrating, nocturnal and ward edema because of expanded slim strain. Subsequent to being given instrumental music treatment and self-spellbinding, a few respondents said their sentiments became more settled, torment in the head and the neck is diminished, and the delicate music made respondents lethargic.

This outcome is in accordance with the past review proposed that giving music treatment can decrease rest issues, unwind, and dispose of unsavory sentiments. Listen a music with delicate and mitigating cadence with 60-80 beats can make the body mood diminishes changing in accordance with the music. This present circumstance likewise influences diminishing thoughtful nerve reaction which diminishes crucial signs, for example, pulse, breathing, needs oxygen, and circulatory strain. During this cycle, the abatement in nor adrenaline chemical inside body flow is accepted to expand rest and quiet so it might further develop rest quality.

The cerebrum that has been affected by the idea will order the focal sensory system to straightforwardly animate the Reticular Enacting Framework to lessen its exhibition so it affects serotonin discharge from explicit cells in the Pons and brainstem specifically Bulbar Synchronizing Local (BSR). At the point when the client's condition unwinds, the RAS actuation then, at that point, diminishes and the BSR

will assume control over making the client nod off.

In a casual condition, feeling of alpha waves happens in the cerebrum, lungs and respiratory framework can boost oxygen take-up from the external climate, joined by an expansion in the viability of the utilization and trade of gas in the body tissues. Expanded oxygen in the veins lumen will likewise cause a lessening in the firmness of the vein wall, consequently smoothing the progression of flow. The consequences of the review build up the hypothetical idea that there is a critical connection between instrumental music treatment and self-spellbinding with a diminishing in systolic and diastolic circulatory strain in hypertensive patients. Critical decrease in circulatory strain in the mediation bunch, obviously, decidedly affects patients with hypertension since it can forestall further adverse consequences.

Conclusion

The mix of pharmacological treatment with perfect instrumental music and self-entrancing successfully brings down the circulatory strain of hypertensive patients. This treatment can be utilized as a correlative treatment by medical caretakers to diminish circulatory strain in hypertensive patients. This treatment is not difficult to execute and the adverse consequences caused to patients are additionally tiny.

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