

EFFECTIVENESS OF SWEDISH MASSAGE THERAPY ON BLOOD PRESSURE AMONG PATIENTS WITH HYPERTENSION AT SAVEETHA MEDICAL COLLEGE HOSPITAL

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ABSTRACT

Aim of the study: to determine the effectiveness of Swedish massage therapy on blood pressure among patients with hypertension in experimental group.

Background: High blood pressure (BP) is a major public health problem in India and its prevalence is rapidly increasing among both urban and rural populations. In fact, hypertension is the most prevalent chronic disease in India. The higher the pressure in blood vessels the harder the heart has to work in order to pump blood. If left uncontrolled, hypertension can lead to a heart attack, an enlargement of the heart and eventually heart failure.

Design: The Quasi experimental- pre-test post-test control group design.

Methods: Non probability convenience sampling technique was used. A total of 60 patients samples who met the inclusion criteria were selected for the study. Out of 60 samples, 30 in the experimental group and 30 in the control group were assigned. The demographic variables were collected by using structured questionnaire and pre-test level of blood pressure was measured by using sphygmomanometer for the both group. The experimental group patients were given Swedish massage for 20 minutes twice a day for 5 consecutive days and the control group patients was continued the routine care.

Result: The findings of the study reveals that in the experimental group, majority of the hypertensive patients 10(33.33%) were in the age group of 61-70 years, 17(56.67%) were residing in rural area, 12(40%) were illiterates, 28(93.33%) were married, 12(40%) were unemployed and private employee respectively and 18(60%) had Stage I hypertension and 16(53.33%) had BMI in the range of 18.5 – 24.9 (normal). Whereas in the control group, majority of the hypertensive patients 12(40%) were in the age group of 61–70 years, 18(60%) were residing in rural area, 14(46.67%) were illiterates, 26(86.67%) were married, 14(46.67%) were unemployed, 18(60%) had Stage I hypertension and 14(46.67%) had BMI in the range of 18.5– 24.9 (normal) and 25 – 29.9 (overweight) respectively. The pretest the mean score of systolic BP was 137.33±11.27 and the post-test mean score was 130.66±6.12. The calculated paired 't' value of $t = 5.637$ was found to be statistically highly significant at $p < 0.001$ level in the patients of experimental group. This clearly indicates that Swedish massage was found effective in reducing the level of blood pressure among patients with hypertension in the experimental group.

Conclusions: The finding illustrated that Swedish massage is a simple non- pharmacological and cost effective method. It is effective in reducing blood pressure among hypertension patients.

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INTRODUCTION

Hypertension is one of the most common lifestyle diseases today. Hypertension is a major public health problem in the world because of its high frequency and concomitant risk of cardiovascular and kidney disease.

Among the chronic diseases in India, the most prevalent one is Hypertension. The American Heart Association (2013) estimated that In India about 972 million people suffer from hypertension. It is anticipated that the number of people with hypertension will increase in future posing major issues to the health and quality of life of people.

Hypertension makes people five times more prone to stroke, three times more likely to develop heart attacks and two or three times likely to experience heart failure. The risk factor of hypertension is divided into modifiable and non-modifiable risk factors. Non-modifiable risk factors of hypertension is ethnicity, increased age (>35 years), having a familial history of hypertension. The modifiable risk factors are overweight or obese, history of smoking, high intake of dietary sodium, excessive alcohol, sedentary lifestyle, high level of stress and poorly controlled diabetes. The main causes of hypertension are dysfunction of sympathetic nervous system, dysfunction of renin-angiotensin-aldosterone system, vasoconstriction, dyslipidaemia, insulin resistance and stress. The common complications of hypertension are target organ diseases occurring in the heart (hypertensive heart disease), brain (cerebrovascular disease), peripheral vasculature (peripheral vascular disease), kidney (nephrosclerosis) and eyes (retinal damage).

Background

High blood pressure (BP) is a major public health problem in India and its prevalence is rapidly increasing among both urban and rural populations. In fact, hypertension is the most prevalent chronic disease in India. The higher the pressure in blood vessels the harder the heart has to work in order to pump blood. If left uncontrolled, hypertension can lead to a heart attack, an enlargement of the heart and eventually heart failure. Swedish massage includes techniques that enable mechanical effects on muscle tissue, skin, tendons, fascia and connective tissue which indirectly cause the autonomic nervous system to regulate.

It involves the use of hands, forearms or elbows to manipulate the superficial layers of the muscles to improve mental and physical health. Sadeghi Kaji, Nariman (2014) conducted clinical trial study in Shahin Shahr Goldis Hospital to evaluate effectiveness of Swedish massage on blood pressure and heart rate in hypertension patients. After simple continuous sampling, 36 male participants were selected with no clinical disorder which contradicts with massage. The participants were divided into 18 in group one and 18 in group two. Research was over a 12 week period divided into three parts (4 week each part) in which two treatment period contained massage and one period was for washout. The participants' blood pressure was recorded at baseline.

Two massage techniques (Effleurage and Petrissage) was done on muscle groups including the back, neck and chest muscles (Group 1) and the second group includes legs, hands and face muscles (group 2) with respect to a massage during the break between the two groups. After the massage with first group, the researcher observed that there was decrease in systolic blood pressure and with the group 2, it is observed that that there was a decrease in both systolic and diastolic blood pressure. It is concluded that Swedish massage is effective in both groups. The investigator from her personal experience has observed the patients with hypertension suffering from the symptoms and complication of increased blood pressure. This can be reduced by complementary therapy along with the medications to reduce the heart rate and blood pressure. Swedish massage has been identified as a complementary therapy. The severity of increased blood pressure in the society will be reduced with the application of Swedish massage among patients with hypertension.

Aim of the study

To determine the effectiveness of Swedish massage therapy on blood pressure among patients with hypertension in experimental group.

MATERIALS AND METHODS

A total of 60 female samples who met the inclusion criteria were selected by convenience sampling technique for the study. Out of 60 samples, 30 in the experimental group and 30 in the control group were assigned. The samples were selected from the 4 female medical wards and from 4 male wards, where 2 female and male ward samples are assigned as experimental group and 2 male and female ward samples are assigned as control group. After selecting samples, the investigator introduced her and explains the purpose of the study and then obtains the consent from patients with hypertension in male and female medical wards. The purpose of the study and their right to participate or with-draw from the study has been explained to the participants.

The eligible samples were identified by framing target population and accessible population. The samples are selected who comes under inclusive criteria. The investigator selects the samples in the first week of the study period. The informed consent obtained from the study samples. The demographic variables were collected by using structured questionnaire and pre-test level of blood pressure was measured by using sphygmomanometer for the both group. The experimental group patients were given Swedish massage for 20 minutes for 5 consecutive days and the control group patients was continued the routine care. After that, the post-test level of blood pressure was assessed by using sphygmomanometer for the experimental group and control group. The data were analysed using descriptive and inferential statistics.

Ethical consideration: The project has been approved by the ethics committee of the institution. Informed consent was obtained from the participants before initiating the study.

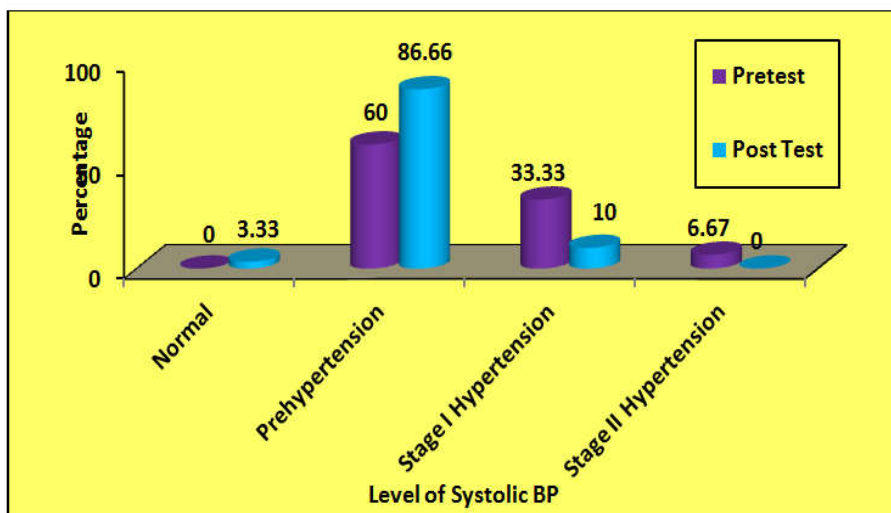
RESULTS

Figure shows that in the pretest majority 18(60%) had prehypertension, 10(33.33%) had Stage I hypertension and 2(6.67%) had Stage II hypertension were normal. Whereas after the administration of Swedish massage on level of blood pressure majority 26(86.66%) had prehypertension, 3(10%) had Stage I hypertension and only one (3.33%) were normal. The table 6 shows that in the pre-test majority 17(56.67%) had Stage I hypertension, 8(26.66%) had prehypertension, and 5(16.67%) had Stage II hypertension. Whereas after the administration of Swedish massage on level of blood pressure majority 26(86.67%) were normal and only 4(13.33%) had Stage I hypertension. Figure shows that in the pretest majority 17(56.67%) had Stage I hypertension, 8(26.66%) had prehypertension, and 5(16.67%) had Stage II hypertension. Whereas after the administration of Swedish massage on level of blood pressure majority 26(86.67%) were normal and only 4(13.33%) had Stage I hypertension. The table 10 portrays that the calculated unpaired 't' value of $t = 1.392$ between the pre-test level of systolic blood pressure among the experimental and control group was not found to be statistically significant at $p < 0.05$ level and this clearly shows that there was no difference in the level of systolic blood pressure among the patients with hypertension in both the groups.

Frequency and percentage distribution of pre-test and post-test level of systolic blood pressure among patients with hypertension in the experimental group.

Systolic BP	Normal		Pre hypertension		Stage I Hypertension		Stage II Hypertension		Mean	S.D
	No	%	No	%	No	%	No.	%		
Pre-test	0	0.00	18	60	10	33.33	2	6.67	137.33	11.2
Post-test	1	3.33	26	86.66	3	10.0	0	0	130.66	6.12

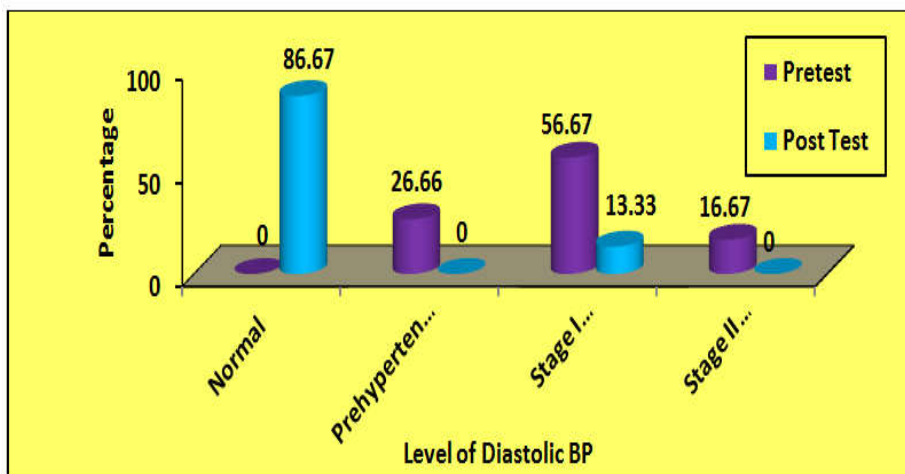
n = 30



Frequency and percentage distribution of pre-test and post-test level of diastolic blood pressure among patients with hypertension in the experimental group

Diastolic BP	Normal		Pre yper-tension		Stage I Hypertension		Stage II Hypertension		Mean	S.D
	No.	%	No.	%	No.	%	No.	%		
Pre-test	0	0.00	8	26.66	17	56.67	5	16.67	90.16	5.16
Post Test	26	86.67	0	0	4	13.33	0	0	81.33	3.45

n=30



The effectiveness of Swedish massage therapy on level of blood pressure among patients with hypertension in both experimental and control group

test	Level of blod pressure	Experimental group		Control group		Unpaired 't' value
		Mean	Standard deviation	Mean	Standard deviation	
pre-test	Systolic BP	137.33	11.27	141.33	10.98	-1.392 P=0.169, N.S
	Diastolic BP	90.16	5.16	90.16	5.64	0.000 P=1.000, N.S
Post-test	Systolic BP	130.66	6.12	139.50	10.28	4.042*** P=0.0001, S
	Diastolic BP	81.33	3.45	88.50	5.11	6.361*** P=0.0001, S

n = 60

*** p<0.001, S – significant, N.S – Not Significant

Conclusion

The calculated unpaired 't' value of $t = 4.042$ between the post-test level of systolic blood pressure among the experimental and control group was found to be statistically highly significant at $p < 0.001$ level and this clearly indicates that after the administration of Swedish massage on level of blood pressure, there was significant reduction in the level of systolic blood pressure among the hypertensive patients in the experimental group than the control group. The calculated unpaired 't' value of $t = 0.000$ between the pretest level of diastolic blood pressure among the experimental and control group was not found to be statistically significant at $p < 0.05$ level and this clearly shows that there was no difference in the level of diastolic blood pressure among the hypertensive patients in both the groups. This study indicates that Swedish massage is a simple non-pharmacological and cost effective method. It is effective in reducing blood pressure among hypertension patients. The selected patients become familiar and found themselves comfortable and also expressed satisfaction. From the results of the study, it is concluded that Swedish massage that is not only cost effective and also it has no side-effects and easy to do at home.

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