

A quasi experimental study to assess the effectiveness of beetroot juice in reducing blood pressure among hypertensive patients in selected hospital, Chennai

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INTRODUCTION

Health is a precious aspect of all human beings, as it is an asset for an individual. The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being. Health is maintained and improved not only through the advancement and application of health sciences, but also through the efforts and intelligent life style choices of individual and society like exercise, diet pattern, yoga and meditation practices. Hypertension is an important medical and public health issue. It exists worldwide at epidemic rates affecting as estimated 1 billion people. Two third of hypertensive patients do not have their blood pressure controlled (Lewis, 2010). There are some natural ways to reduce blood pressure up to some extend. The best way is through diet. Dietary modification requires active participation of individuals. Dietary factors have an important influence on blood pressure regulation in individuals with changing life styles. Increased intake of vegetables with a high dietary nitrate intake will help in reducing the blood pressure. Beet root is the vegetable which contain nitrates, which is naturally found in soil and absorbed by the vegetables through the roots (Jennifer Warner, 2012). Nitric Oxide has the capacity to dilate the blood vessels and improve the blood flow thus reducing the blood pressure. Nitric Oxide has numerous functions in the body, including the regulation of blood flow, muscle contractility, glucose and calcium homeostasis, and mitochondrial respiration and biogenesis.

OBJECTIVES:

1. To assess the blood pressure among selected hypertensive clients before the administration of beetroot juice
2. To determine the effect of beetroot juice on blood pressure among selected hypertensive clients.
3. To compare the pre and post level of blood pressure before and after the administration of beetroot juice
4. To find out the association between the selected demographic variable and the blood pressure among selected hypertensive clients.

HYPOTHESIS:

H1: There will be a significant difference between the level of blood pressure before and after the administration of beetroot juice among the selected hypertensive clients

H2: There will be an association between blood pressure and selected demographic variables.

METHODOLOGY:

The study was conducted among clients with hypertension attended in Hypertension OPD of Sree Balaji Medical College and Hospital. The research design of the study was quasi-one group pre-test post-test experimental method. The sample size of the study was 60 and the sampling technique used was non-probability purposive sampling techniques

RESULTS

Among 60 samples, majority 25 (41.6%) of the subject were between the age group of 51-60 years, 5(8.3%) samples were between 30-40 years, 20(33.3%) were between 41-50 years and 10(16.6%) samples were belongs to the age of 60 years and above. In gender, majority 39(65%) of the samples were male and 21(35%) were female. In BMI, majority 34(56.6%) of the samples were belongs to 25-29.9Kg/m² BMI, 2(3.3%) were belongs to <18.5Kg/m², 7(11.6%) belongs to 18.5-24.9Kg/m² BMI and 17(28.3%) belongs to >30Kg/m² BMI. For educational status, majority 24(40%) belongs to Secondary level of education, 7(12.6%) of the samples were illiterate, 23(38.7%) samples belongs to primary level of education and 6(10%) were Graduate And Above. In

occupation, majority 33(55%) samples were sedentary workers, 19(31.6%) were moderate workers and 8(13.3%) were heavy workers. In case of family history, majority 35(58.4%) of the samples have family history of hypertension and 25(41.6%) of the samples has no family history of hypertension. In dietary pattern, majority of the samples 47(78.4%) were non-vegetarian and 13(21.6%) were vegetarian.

Regarding habit of smoking, majority 36(60%) of the samples has no habit of smoking and 24(40%) were smokers. About habit of alcohol consumption, majority 34(56.6%) of the samples were non-alcoholic and 26(43.3%) were alcoholic. In practice of exercise, majority 43(71.6%) were not practising exercise and 17(28.3%) were practising exercise.

At the end of the study the mean value of systolic blood pressure is 147.3 before intervention and 133.7 after intervention and its standard deviation value is 13.2 before intervention and 18.7 after intervention. The mean value of diastolic blood pressure is 92.7 before intervention and 85.3 after intervention and its standard deviation value is 4.9 before intervention and 8.1 after intervention. To test the significance 't' test has been applied. The overall paired 't' test value is 9.3 and 9.7.

CONCLUSION

The study concluded that administration of beetroot juice among the hypertensive clients has reduced their blood pressure up to some extent. Hence, the study was found effective.

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