



“A STUDY TO ASSESS THE EFFECTIVENESS OF PRANAYAMA ON STRESS MANAGEMENT AMONG ADULTS WITH HYPERTENSION AT SELECTED VILLAGES, NELLORE, A.P.”



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Abstract: Stress is the inability to cope with the perceived real or imagined demands or threats to one's mental, emotional and spiritual well being. Pranayama is the practice of breath regulation. It is main component of yoga and exercise for physical at and mental wellness. Therefore identification of risk factors associated with hypertension and method is required determine the relationship between stress, pranayama and hypertension. The practice of pranayama involves breathing exercise and patterns. In hale and exhale and hold the breath in the specific sequence. **Objectives: 1.** To assess the effectiveness of pranayama on stress among hypertensive adults. **2.** Association between level of stress and socio demographic variables of hypertensive adults. Setting and design: The study was in Kamakshi Nagar, at Nellore, by using a Non equivalent control group design. **Materials and methods:** 30 adults who fulfill the inclusion criteria were selected by Non probability convenience sampling technique. Deals with structured questionnaires used to assess the knowledge regarding stress management and pranayama among hypertensive adults was used to collect data. The data were analyzed in terms of objectives of the study using descriptive and inferential statistics. **Results:** The results shows that the repeated Measure ANOVA “F” value is 64.983, P value is 0.0001. Hence it is significant. In control group pre test mean value is 12.73, SD value is 3.06, post test 1 mean value is 10.93, SD value is 2.43, Post test 2 mean value is 10.47, SD value is 1.77 and post test 3 mean value is 11.07, SD value is 2.09. The repeated Measure ANOVA “F” test value is 5.368, P value is 0.022. Hence it is significant. **Conclusion:** The findings of the study shows that that stress management and pranayamam is effective to decrease the hypertension among hypertensive adults. **Key words:** Assess, stress management, pranayamam, hypertensive adults.

Introduction:

A person with hypertension may not notice symptoms, and so people often call it the silent killer. It's can damaged the heart blood vessels and other organs. In severe cases high blood pressure causes sweating, anxiety, headache. Life style adjustment are the standard, first line treatment for hypertension, regular physical exercise engage them in at least 150 ml moderate intensity, aerobic exercise, every week people should exercise on at least five days of the

weak. Some example of activities like walking, jogging, cycling or swimming. People can use specification to treat the hypertension include diuretics beta blockers, vaso-dilator, and maintain the bash-diet. Pranayama is the practice of breath regulation. It is main component of yoga and exercise for physical and mental wellness. In sanskrit “prana” means life energy and ”yama” means the control. The practice of pranayama involves breathing exercise and patterns. In hale and exhale and hold the breath in the specific



sequence. In a 2013 study pranayama reduce perceived stress level in healthy young adult.

Need for study:

This study was undertaken to determine the effect of Pranayama namely anuloma-viloma and bhramari for mental relaxation, and their effects of blood pressure, the study was conducted to understand the role of short term Practice of Pranayama on blood pressure. Nellore - 30 subjects of 20 - 40 years age group, fulfilling the inclusion criteria understand bhramari pranayama training for 3 months. Systolic and diastolic blood pressure was performed before and after the pranayama techniques. The results of current study proved that practice of anuloma-viloma and bhramari pranayama gives good results to maintain Normal blood pressure also to reduce the stress level that we get in our day to day life.

Problem of the Statement: “A Study to assess the effectiveness of Pranayama on stress management among Adults with Hypertension at selected Villages, Nellore, A.P.”

Objectives:

- To assess the effectiveness of pranayama on stress among hypertensive adults.
- Association between level of stress and socio demographic variables of hypertensive adults.

Operational definitions

Stress: Stress is the inability to cope with the perceived real or imagined demands or threats to one's mental, emotional and spiritual well being.

Pranayama: Pranayama is the Yogic practice means 'vital life force' and yama means to control. In yoga breath is associated with prana.

Hypertension: Hypertension is a chronic medical condition, in which the blood pressure in the arteries is elevated. Systolic and diastolic pressure is persistently at or above 140/90mm/hg.

Materials and Methods:

Research approach: A quantitative research approach was adopted in this study.

Research design: A Non equivalent control group design adopted for the study.

Settings of the study:

The study was conducted in Kamakshi Nagar, at Nellore. Kamkashi Nagar is a small village in Thotapalligudur. It is located 13 km towards north district Nellore and 3 km from Thotapalli Nagar. The total population is 2410. Male are 1222 and female are 1188. The total area in detain of Kamkashi Nagar is 299 hector.

Target population

The target population for the present study includes all hypertensive adult.

Accessible population

The accessible population for the present study was all hypertensive adult who are practicing pranayama stress management.

Sample: The sample for the study was all hypertensive adults.

Sample size: The sample size for the present study was 30 hypertensive adults

Sampling technique: Non probability purposive sampling technique is used to select the samples.

CRITERIA FOR SAMPLE SELECTION

Inclusion criteria:

Hypertensive adults who are:

- Diagnosed as hypertension.
- Both gender.
- Living in Kamakshi Nagar Nellore.

Exclusion criteria:

Hypertensive adults who are:

- Not willing to participate in study.
- Diagnosed as hypertension with other medical disease like cardiac disease.
- Not available at the time of study.

Method of data collection

Self Administered structured questionnaire was adopted for data collection.

Description of the tool

The tool is divided into two parts

Part-I : Deals with socio demographic variables

Part-II : Deals with structured questionnaires

Content validity:

The validity of the tool was obtained from the experts in the medical surgical nursing department and it was



modified based on suggestion and opinions before conducting the study.

Reliability:

The reliability of the tool was established by Spearman browns formula (split half method) and value was obtained ($r=0.98$) $r=2r/n$

Feasibility:

The reliability of the tool was tasted for feasibility by conducting pilot study among adult.

Ethical clearance:

Ethical clearance was obtained from the institutional ethical committee for conducting the pilot study and the study was conducted among adults in rayapalem, Nellore. The permission was obtained from Ethical committee, Panchayat Officer and Nursing Dean.

Consent: Written consent will be taken before going to conduct the study.

Justice:

This study will be useful for hypertensive adults.

Beneficance: Hypertensive adults people will be benefitted.

Malficience:

There will be no harm to the hypertensive adults and the environment and reduction from explosion.

Veracity:

Maintain good interpersonal relationship with the participants and follow the principle of right to disclosure.

Pilot study:

The pilot study was conducted in Kamakshi nagar, Nellore. The permission has to obtained from Ethical committee, Panchayat Officer and Nursing Dean. 30 adults was selected by using non probability purposive sampling technique. After explain the nature and purpose of the study was explained informed consent was obtained from participants. The pilot study was conducted with 5 samples, it took 30 minutes to complete each questions. The pilot study findings are shown that the questionnaire was reliability to conduct the main study.

Data collection procedure

Formal written permission was obtained from the village Kamakshi Nagar Nellore. The sample size is 30 hypertensive adults by using non probability purposive sampling technique used to select the participants. Among 30 hypertensive adults to develop a good rapport. The investigator introduce herself to hypertensive adults and assured the participants. The confidentiality of their response. The hypertensive adults was informed by the investigator about the purpose of study and their written consent was obtained on the 1st day. A pretest and post test was conducted by the investigator by structure questionnaires about stress management to experimental and control groups. Information booklet was given to the experimental group after pre test. The data was analyzed based on the objective of the study using descriptive and inferential statistical method and tabulated according to objectives of the study.

Plan for data analysis

The data was analyzed by using descriptive and inferential statistic method.

- Frequency and percentage distribution of selected socio-demographic variables.
- Frequency and percentage distribution of pretest and post test level of stress among adults with hypertension in urban and control groups.
- Comparison of mean and standard deviation of pretest and post tests level of stress among the adults with hypertension in urban and control groups by Repeated Measures ANOVA.
- Comparison of mean and standard deviation of pretest, post test 1, post test 2 and post test 3 on level of stress among adults with hypertension in urban and control groups.
- Comparison of mean and standard deviation of pretest and post tests level of stress management among the adults with hypertension in urban and control groups by Repeated Measures ANOVA.
- Comparison of mean and standard deviation of pretest, post test 1, post test 2 and post test 3 on level of stress management among adults with



hypertension in urban and control groups.

➤ Association between the post test scores of stress management and pranayama among hypertensive adults in urban and control groups with their selected socio demographic variables.

Frequency and percentage distribution of pretest and post test level of stress among adults in urban and control groups in experimental group.

Frequency and percentage distribution of pretest and post test level of stress management among adults in urban and control groups in control group.

Tab - 1: Comparison of mean and standard deviation of pretest and post tests level of stress among the adults in experimental and control groups by Repeated Measures ANOVA. (N = 15)

| Group | Stress | Mean | S.D | Repeated Measures ANOVA |
|--------------------|-------------|-------|------|-------------------------|
| Experimental Group | Pretest | 13.47 | 3.02 | F = 64.983 |
| | Post Test 1 | 11.47 | 2.75 | P = 0.0001 |
| | Post Test 2 | 10.13 | 2.03 | S*** |
| | Post Test 3 | 8.14 | 1.25 | |
| Control Group | Pretest | 12.73 | 3.06 | F = 5.368 |
| | Post Test 1 | 10.93 | 2.43 | P = 0.022 |
| | Post Test 2 | 10.47 | 1.77 | S* |
| | Post Test 3 | 11.07 | 2.09 | |

Tab - 2: Comparison of mean and standard deviation of pretest, post test 1, post test 2 and post test 3 on level of stress management among adults in experimental and control groups in experimental and control group. n = 30(15+15)

| Stress Management | Experimental Group | | Control Group | | Mean Difference | Student Independent 't' Test Value |
|-------------------|--------------------|------|---------------|------|-----------------|------------------------------------|
| | Mean | S.D | Mean | S.D | | |
| Pretest | 6.27 | 4.76 | 3.53 | 1.06 | 2.74 | t = 2.172 p=0.046, S* |
| Post Test 1 | 5.80 | 3.45 | 3.87 | 1.55 | 1.93 | t = 1.980 p=0.062, N.S |
| Post Test 2 | 5.53 | 0.83 | 4.13 | 1.88 | 1.40 | t = 2.631 p=0.016, S* |
| Post Test 3 | 6.53 | 0.83 | 4.40 | 2.41 | 2.13 | t = 3.235 p=0.005, S** |

Tab - 1: Association between the post test scores of stress management and pranayama among hypertensive adults in urban and control groups with their selected socio demographic variables. (n = 30)

| Demographic Variables | Experimental Group | | Control Group | | Chi-Square Value for Homogeneity |
|------------------------------|--------------------|------|---------------|------|---|
| | No. | % | No. | % | |
| Age in years | | | | | $\chi^2=1.378$ d.f=3 p=0.711 N.S |
| 40 – 45 years | 5 | 33.4 | 4 | 26.7 | |
| 46 – 50 years | 6 | 40.0 | 4 | 26.7 | |
| 51– 55 years | 2 | 13.3 | 3 | 20.0 | |
| 56 – 60 years | 2 | 13.3 | 4 | 26.7 | |
| Gender | | | | | $\chi^2=0.000$ d.f=1 p=0.711; N.S |
| Male | 7 | 46.7 | 7 | 46.7 | |
| Female | 8 | 53.3 | 8 | 53.3 | |
| Demographic Variables | | | | | Chi-Square Value for Homogeneity |
| Educational status | | | | | $\chi^2=4.000$ d.f=3 p=0.261 N.S |
| High school | 7 | 46.6 | 3 | 20.0 | |
| Higher secondary education | 4 | 26.7 | 6 | 40.0 | |
| Graduate | 3 | 20.0 | 6 | 40.0 | |
| Post graduate | 1 | 6.7 | 0 | 0 | |
| No formal education | - | - | - | - | |
| Occupational status | | | | | $\chi^2=1.679$ d.f=2 p=0.432 N.S |
| Sedentary worker | 5 | 33.3 | 2 | 13.3 | |
| Moderate worker | 7 | 46.7 | 9 | 60.0 | |
| Heavy worker | 3 | 20.0 | 4 | 26.7 | |
| Religion | | | | | $\chi^2=13.855$ d.f=2 p=0.001 S*** |
| Hindu | 9 | 60.0 | 0 | 0 | |
| Muslim | 4 | 26.7 | 6 | 40.0 | |
| Christian | 2 | 13.3 | 9 | 60.0 | |
| Others | - | - | - | - | |
| Marital status | | | | | $\chi^2=0.159$ d.f=1 p=0.690 N.S |
| Single | 4 | 26.7 | 5 | 33.3 | |
| Married | 11 | 73.3 | 10 | 66.7 | |
| Widower | - | - | - | - | |
| Dietary habits | | | | | $\chi^2=2.727$ d.f=1 p=0.099 N.S |
| Vegetarian | 2 | 13.3 | 6 | 40.0 | |
| Non-vegetarian | 13 | 86.7 | 9 | 60.0 | |
| Other | - | - | - | - | |



| Alcohol consumption (ml/d) | | | | | $\chi^2=2.614$ d.f=2 p=0.339 N.S |
|---|---------------------|------|---------------|------|---|
| Non-drinkers (o or occasional) | 4 | 26.7 | 5 | 33.3 | |
| Moderate drinkers (1 - 100) | 9 | 60.0 | 10 | 66.7 | |
| Heavy drinkers (>100) | 2 | 13.3 | 0 | 0 | |
| Smoking (Cigarettes / day) | | | | | $\chi^2=3.333$ d.f=1 p=0.068; N.S |
| Non-smokers | 10 | 66.7 | 14 | 93.3 | |
| Smokers | 5 | 33.3 | 1 | 6.7 | |
| Known case of diabetic | | | | | |
| Yes | 12 | 80.0 | 10 | 66.7 | $\chi^2=0.682$ d.f=1 |
| No | 3 | 20.0 | 5 | 33.3 | p=0.409;N.S |
| Since how many years having hypertension | | | | | $\chi^2=1.292$ d.f=1 p=0.256 N.S |
| ≤ 1 year | - | - | - | - | |
| 2 years | 4 | 26.7 | 7 | 46.7 | |
| 3 years | 11 | 73.3 | 8 | 53.3 | |
| 4 years | - | - | - | - | |
| ≥5 years | - | - | - | - | |
| Demographic Variables | Experiment al Group | | Control Group | | Chi-Square Value for Homogeneity |
| | No. | % | No. | % | |
| Do you have stress | | | | | $\chi^2=0.000$ d.f=1 |
| Yes | 6 | 40.0 | 6 | 40.0 | p=1.000; N.S |
| No | 9 | 60.0 | 9 | 60.0 | |
| Reason for stress | | | | | $\chi^2=3.000$ d.f=4 |
| A | 3 | 20.0 | 3 | 20.0 | p=0.558 |
| B | 3 | 20.0 | 1 | 6.7 | |
| C | 0 | 0 | 1 | 6.7 | N.S |
| D | 0 | 0 | 1 | 6.7 | |
| No | 9 | 60.0 | 9 | 60.0 | |
| Do you have family history of heart disease? | | | | | $\chi^2=0.600$ d.f=1 |
| Yes | 9 | 60.0 | 11 | 73.3 | p=0.439; N.S |
| No | 6 | 40.0 | 4 | 26.7 | |
| Do you diagnosed with high cholesterol? | | | | | $\chi^2=8.571$ d.f=1 |
| Yes | 11 | 73.3 | 3 | 20.0 | p=0.003; S** |
| No | 4 | 26.7 | 12 | 80.0 | |
| The Source of Information on prevention of risk for CAD is from | | | | | $\chi^2=2.759$ d.f=2 |
| Health care personnel | 8 | 53.3 | 5 | 33.3 | p=0.252 |
| Social media (TV/Radio/Internet) | 7 | 46.7 | 8 | 53.3 | |
| Family and friends | 0 | 0 | 2 | 13.3 | |
| | | | | | N.S |

Results and Discussion: Exhibit the frequency and percentage distribution on demographic variables between experimental and control group among adults with hypertension in rural and experimental groups.

➤ In relation to age, X² value is 1.378 and P value is 0.711 and there is not significant.

➤ With regard to gender, X² value is 0.000 and P value is 0.711 and there is not significant.

➤ With reference to educational status, X² value is 4.000 and P value is 0.261 and there is not significant.

➤ With relation to occupational status, X² value is 1.679 and P value is 0.432 and there is not significant.

➤ With concerning to religion, X² value is 13.855 and P value is 0.001 and there is significant.

➤ With context to marital status, X² value is 0.159 and P value is 0.690 and there is not significant.

➤ With relation to dietary habit, X² value is 2.727 and P value is 0.099 and there is not significant.

➤ With regard to alcohol consumption, X² value is 2.614 and P value is 0.339 and there is not significant.

➤ With reference to smoking, X² value is 3.333 and P value is 0.068 and there is not significant.

➤ With concerning to known case of diabetic, X² value is 0.682 and P value is 0.409 and there is not significant.

➤ With context to since how many years having hypertension, X² value is 1.292 and P value is 0.256 and there is not significant.

➤ With relation to stress, X² value is 0.000 and P value is 1.000 and there is not significant.

➤ With regard to reason of stress, X² value is 3.000 and P value is 0.558 and there is not significant.

➤ With reference to family history of heart disease, X² value is 0.600 and P value is 0.439 and there is not significant.

➤ With regard to diagnosed with high cholesterol, X² value is 8.571 and P value is 0.003 and there is significant.

➤ With concerning to source of information on prevention of risk for CAD, X² value is 2.759 and P value is 0.252 and there is significant.

The present study shows that stress management and pranayamam shows the statistically



significant to reduced the hypertension among hypertensive adults in experimental group as compared to the control group. Stress management and pranayama is effective to decreased the hypertension among hypertensive adults.

Nursing Implication:

The findings of the study have various implications on different areas of nursing and nursing practice, nursing education, nursing administration and nursing research.

Nursing Practice:

The planned teaching programme regarding stress management and pranayama can be utilized to create awareness among the hypertensive adults.

Nursing Education:

Stress management and pranayama can be taught to hypertensive adults to improve the health status.

Nurse educator must provide adequate training regarding stress management to hypertensive adults to reduce the hypertension level.

Nursing Administration:

The administration should conduct awareness programme regarding stress management and pranayama in community settings to reduce the hypertension among hypertensive adults.

Various programme can conduct by community health settings to reduce the development of hypertension.

Nursing Research:

This study helps the hypertensive adults

Nurse researcher should encourage clinical nurse to apply the research findings in their daily nursing care activities to reduce the hypertension and prevent to develop the cardiac disorders among hypertensive adults.

Recommendations: Based on the findings, the following recommendations are suggested for future research.

- A study can be replicated about knowledge on stress management and pranayama among hypertensive adults.
- A study can be conducted on assess the risk factor associated with related disease among hypertensive adults.

Conclusion: The conclusion drawn from the study was that there was stress management and pranayama shows the statistically significant to reduced the hypertension among hypertensive adults in experimental group as compared to the control group. The study shown that stress management and pranayama is effective to decreased the hypertension among hypertensive adults.

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