

EFFECT OF HATHA YOGA PRACTICES AND THERAPEUTIC EXERCISES ON SYSTOLIC BLOOD PRESSURE AMONG OLD AGED WOMEN WITH ARTHRITIS

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Abstract

The purpose of the present study was to find out the effect of hatha yoga practices and therapeutic exercises on systolic blood pressure among old aged women with arthritis. The study was conducted on 45 Old aged women with arthritis. Totally three groups, namely, control & experimental group I & II, consisting of 15 old aged women with arthritis underwent six weeks practice in Hatha yoga practices and therapeutic exercises whereas the control group did not under go any type of training. The Systolic blood pressure was measured before and after the experimentation using the citizen equipment to measure the Systolic blood pressure. The data were analyzed by Analysis of Co-variance (ANCOVA) and it was concluded that the Hatha yoga practices and therapeutic exercises had significant ($P < 0.05$) effect on the Systolic blood pressure level.

Key words: Hatha yoga practices and therapeutic exercises, Systolic blood pressure.

INTRODUCTION

“According to WHO, health is a state of complete physical, mental and social Well-being and not merely the absence of disease or infirmity”

Health is not just freedom from disease. For good health the joints tissues muscles cells nerves glands and each system of the body must all be in a state of perfect balance and harmony. Health is the perfect equilibrium of the body and mind intellect, and should health is like the flowing water of a river always fresh and pure in a constant state of flux. Humans are a combination of the senses of perception the organs of action the mind the intelligence the inner consciousness and the conscience. Good health results for perfect communication between each part of the body and mind when each cell communes with every other

The term Lifestyle means “*The Way of People Live*”, reflecting a whole range of social values, attitudes and activities. It is composed of cultural and behavioral patterns and life-long personal habits that have developed through process of socialization.

Health requires the promotion of healthy lifestyles. In the last 20 years, a considerable body of evidence has accumulated which indicates that there is an association between health and lifestyle of individuals.

Many current - day health problems especially in the developed countries (e.g., coronary heart disease, diabetes, obesity, lung cancer, drug addiction) are associated with lifestyle changes. In developing countries such as India where traditional lifestyles still persists,

risks of illness and death are connected with lack of sanitation, poor nutrition, and personal hygiene, elementary human habits, customs and cultural patterns.

Salutations to the glorious (original) guru, Sri Adinath, who instructed the knowledge of hatha yoga which shines forth as a stairway for those who wish to ascend to the highest stage of yoga, raja yoga.”

Yoga’ -the very word radiates peace and tranquility. This feeling probably stems from the etymology of the word. The word Yoga is derived from the Sanskrit word 'Yuj' which essentially means “*to join or unite*”. The union referred to is that of the individual self uniting with Cosmic Consciousness or the Universal Spirit. Yoga is a means to achieving this goal.

Born in India, almost 26,000 years ago, Yoga is believed to have evolved during the period of the ‘Sat Yuga’, also called the Golden age. This period became known as a time of everlasting peace and abundant blessings, filled with seekers of the Eternal Truth. That is why, probably, even today we associate yoga with sages and hermits.

It was not until the discovery of the Indus- valley civilization, the largest civilization that knowledge about the origin of Yoga surfaced. Excavations give evidence of yoga’s existence during this period; yogi -like figures engraved on soapstone seals have been unearthed. In fact, it was the Aryans, migrating from the north- west, who were instrumental in discovering yoga.

“LIFE is MOVEMENT, and MOVEMENT is LIFE”

Live movements take place at joints. Arthritis hampers joint movement and disturbs normal life. Arthritis is “Chronic Inflammation of Joint”. Inflammation is indicated by stiffness, swelling, redness or warmth in the joints. Any part of the body can become systolic blood pressure due to arthritis. Typically, when one suffers from arthritis, these symptoms are exhibited

1. Apparent loss of flexibility in a joint
2. Extreme fatigue
3. Lack of energy.

When a joint develops osteoarthritis, the cartilage gradually roughens and becomes thin. This happens over the main surface of the knee joint or at the cartilage underneath the patella. The surrounding bone reacts by growing thicker. The bone at the edge of the joint grows outwards (this forms *osteophytes* or bony spurs) (see Figure 3). This bone growth can affect the femur and the tibia, as well as the patella. The synovium swells slightly and may produce extra fluid, which then makes the joint swell. This extra fluid causes what some people call 'water on the knee'.

The capsule and ligaments slowly thicken and shrink, as if they were trying to push the joint back into shape. The muscles that move the joint gradually weaken and become thin or wasted. This can make the knee joint unstable so that it 'gives way' when you put weight

on it. Osteoarthritis may then seriously affect the joint, making it painful and difficult to move.

STATEMENT OF THE PROBLEM

The purpose of the study was to find out the effect of Hatha yoga practices and therapeutic exercises on Systolic blood pressure among Old aged women with arthritis

HYPOTHESIS

It was hypothesized that there would be a significant difference on Systolic blood pressure among old aged women with arthritis due to Hatha yoga practices and therapeutic exercises groups than the control group.

METHODOLOGY

The purpose of the study was to find out the effect of Hatha yoga practices and therapeutic exercises on Systolic blood pressure among Old aged women with arthritis. For the purpose of this study, forty-five old aged women with arthritis were chosen on random basis from Chennai only. Their age group ranges from 55 to 60.

The subjects were divided into three group of fifteen each. The experimental group I would undergo Hatha yoga practices with therapeutic exercises and the experimental group II undergo Hatha yoga practices without therapeutic exercises and third group consider as control group not attend any practices, and the pre test and post test would be conducted before and after the training. Training would be given for six weeks. It would be found out finally the effect of Hatha yoga practices and therapeutic exercises on Systolic blood pressure among Old aged women with arthritis in scientific method. The citizen equipment measured for Systolic blood pressure. The collected data were statistically analyzed by using analysis of covariance (ANCOVA).

Training Schedule

Experimental Group I : Hatha yoga practices with therapeutic exercises

Experimental Group II : Hatha yoga practices without therapeutic exercises

Group III : Control Group (No Training).

COMPUTATION OF ANALYSIS OF COVARIANCE AND POST HOC TEST ON SYSTOLIC BLOOD PRESSURE

The statistical analysis comparing initial and final means of Systolic blood pressure due to Hatha yoga practices and therapeutic exercises among Old aged women with arthritis is presented in Table I.

**TABLE – I
ANALYSIS OF COVARIANCE OF THE MEANS OF TWO EXPERIMENTAL GROUPS AND THE CONTROL GROUP IN SYSTOLIC BLOOD PRESSURE**

| | | | | | | | | |
|--|--|--|--|--|--|--|--|--|
| | | | | | | | | |
|--|--|--|--|--|--|--|--|--|

| Test | Ex. Group. I | Ex. Group. II | Control group | Source of variance | df | Sum of square | Mean square | F |
|----------------|--------------|---------------|---------------|--------------------|----------|---------------|-------------|--------|
| Pre-test mean | 142.4 | 142.33 | 141.00 | Between | 18.71 | 2 | 9.356 | 0.72 |
| | | | | Within | 544.93 | 42 | 12.97 | |
| Post-test mean | 132 | 132.60 | 139.87 | Between | 575.24 | 2 | 287.62 | 8.06* |
| | | | | Within | 1499.33 | 42 | 35.70 | |
| Adjusted mean | 131.71 | 132.35 | 140.42 | Between | 683.42 | 2 | 341.71 | 10.76* |
| | | | | Within | 1301.907 | 41 | 31.75 | |

* $F_{(0.05)}(2,42 \text{ and } 2, 41) = 3.23$. *Significant at 0.05 level of confidence.

Since significant improvements were recorded, the results were subjected to post hoc analysis using Scheffe's Confidence Interval test. The results were presented in Table II.

To find out which of the paired means had a significant difference, the Scheffe's post-hoc test is applied and the results are presented in table II.

TABLE II

SCHEFFE'S POST-HOC TEST FOR SYSTOLIC BLOOD PRESSURE

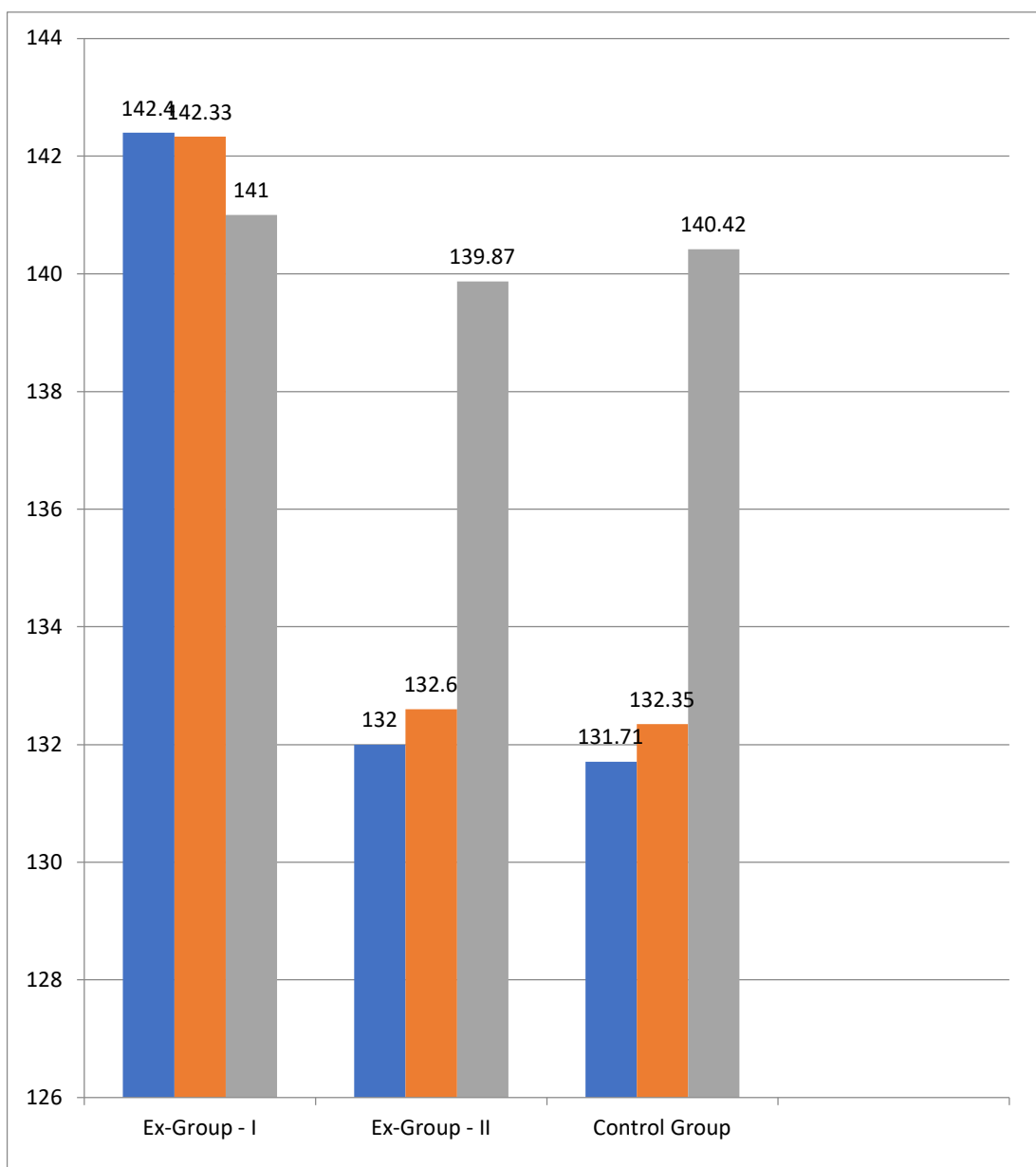
| Ex. Group. I | Ex. Group. II | Control group | Mean Difference | CI |
|--------------|---------------|---------------|-----------------|------|
| 131.71 | 132.35 | - | 0.64 | 5.12 |
| 131.71 | - | 140.42 | 8.71* | 5.12 |
| - | 132.35 | 140.42 | 8.07* | 5.12 |

* Significant at 0.05 level.

The ordered adjusted means were presented through bar diagram for better understanding of the results of this study in Figure 1.

FIGURE – 1

Bar diagram showing the mean difference among Experimental Group I, Experimental Group II and Control Group of Systolic blood pressure



RESULTS AND DISCUSSIONS OF SYSTOLIC BLOOD PRESSURE

Taking into consideration of the pre test means and post test means adjusted post test means were determined and Analysis of Covariance was done and the obtained F value 59.626 was greater than the required value of 3.23 and hence it was accepted that the Hatha yoga practices and therapeutic exercises significantly improved (Decrease) the Systolic blood pressure among male Old aged women with arthritis at 0.05 level.

The post hoc analysis of obtained ordered adjusted means proved that there was significant differences existed between Hatha yoga practices with therapeutic exercises group and control group and Hatha yoga practices without therapeutic exercises group and control

group on Systolic blood pressure. This proved that due to six weeks of Hatha yoga practices with therapeutic exercises practices and Hatha yoga practices without therapeutic exercises Systolic blood pressure was significantly improved (Decrease) among

DISCUSSION ON THE FINDINGS OF SYSTOLIC BLOOD PRESSURE

The Analysis of Co-variance of Systolic blood pressure indicated that experimental group I (Hatha yoga practices with therapeutic exercises), experimental group II (Hatha yoga practices without therapeutic exercises Practices), were significantly improved (Decrease) than the control group on Systolic blood pressure. It may be due to the effect of Hatha yoga practices with therapeutic exercises and Hatha yoga practices without therapeutic exercises Practices.

The findings of the study showed that the experimental group I (Hatha yoga practices with therapeutic exercises) had improvement (Decrease) Systolic blood pressure more than the experimental group II (Hatha yoga practices without therapeutic exercises). Nearly everything in life requires balance. Hatha yoga practices and therapeutic exercises on its own is a good step toward a healthy life style. However, as individual, it is important to malaise that we need to work on our body as well as our mind.

CONCLUSION

There was a significant improvement (Decrease) in Systolic blood pressure of experimental groups when compared to the control group. Hatha yoga practices with therapeutic exercises group has shown improvement than the Hatha yoga practices without therapeutic exercises.

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