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The Effect of Yoga on Blood Pressure in Women in the 20s to 30s in Vijayawada

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ABSTRACT

Because of their immense worth, women everywhere should priorities their own health and well-being. Since the mature woman plays a more significant role in the home and community, she must exude elegance, physical health, and confidence (or "POISE"). Changes in structure and function occur ordinarily with age, regardless of the presence or absence of any specific illness. Beginning about the time when freesia blooms, the female reproductive system begins to age. It's when your white blood cell count drops gradually, maybe because of freesia or ovulation. Due to the large age range (20-40 years) for natural menopause, chronological age is a poor predictor of the start or end of the menopausal transition. By 2025, the world's population of women who have passed menopause is expected to have risen to 1.1 billion. In 1998, the average life expectancy for a female was 65 years old (or 79 in the most advanced countries). By 2025, experts predict that this will have risen to a global average of 72 years (or 82 in rich countries). One-fifth of Indian women in their 40s and 41s are menopausal, and the proportion climbs dramatically from there, reaching 65% of women in their 48s and 49s, as reported by the National Family Health Survey 2005-2006. The number of women reaching menopause is increasing worldwide, including in India. Over 43 million women are said to be menopausal by the Indian Menopausal Society. IMS conducted a statewide

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multi-eccentric study in 2010, and their findings show that the average age at which women enter menopause has dropped from 35 to 20.

I Introduction

Yoga is an ancient Indian practise with a focus on physical, mental, and spiritual well-being. The Sanskrit root "Fuji" means "to unite or integrate," which is whence the English term "Yoga" was borrowed. This is why we say that it signifies "union" of the soul, body, and intellect. As its name implies, the ultimate goal of Yoga is to unite mind and body in a state of blissful enlightenment. Thus, one's own consciousness may merge with the collective consciousness. Yoga may be interpreted in a number of ways, but all of them point towards the same goal: to bring disparate parts together into a whole. The practise of yoga is known to increase IQ, boost mental strength, and improve overall quality of life. The practise of yoga has deep roots in Indian tradition. In its purest form, yoga is a science of introspection and self-discovery. The intrinsic goal of human birth is to achieve a complete understanding of oneself, nature, the divine, and the universe at large. Once this understanding has been attained, one may go about life happily respecting the order of function. A guy may benefit from yoga to get to this point. As we tend to our bodies, we should likewise tend to our spirits by providing them with the necessities of life, such as shelter, hygiene, and relaxation. The practise of yoga is soul care. Selfishness, conceit, and a desire for power are all emotions that yoga helps to calm. Realizing the magnificence of one's own 'self' is the pinnacle of human achievement. Only by realizing his holy inner self can he find inner and outer serenity, and yoga is the practise that can help him do just that. The gap between rational thought and emotional experience is diminished by yoga. The mystery of the 'Pancha Booth (five elements) in the Universe will be revealed to him once he realities who he is in absolute space.

II REVIEW OF LITERATURE

In a study, **Seo et al.(2012)** looked at how 8 weeks of yoga-asana training affected

body composition, lipid profile, and insulin resistance (IR) in overweight teenage males. Twenty participants older than 14 and with a body mass index (BMI) over the 95th percentile were split evenly between yoga and control groups (mean age 14.700.5 years; n=10). The yoga group worked out for eight weeks, three times a week, at 40-60% HRR. The insulin resistance (IR) was calculated using the homeostasis model assessment (HOMA-IR). Yoga exercise results in decreases in body weight, BMI, fat mass (FM), and body fat percentage (BF%), and increases in fat-free mass and basal metabolic rate. When comparing the yoga group to the control group, the yoga group showed statistically significant improvement in FM and BF% (p0.05). The yoga group had a statistically significant (p0.01) reduction in total cholesterol (TC). Both groups had a decline in HDL-cholesterol (p0.05). Triglycerides, LDL-cholesterol, glucose, insulin, and the HOMA-IR showed no significant differences between groups. Yoga training may be useful in regulating several metabolic syndrome components in obese teenage males, as our results reveal that an 8-week yoga training programme improves body composition and TC levels.

The pulmonary functions and diffusion capacity of bronchial asthma patients were studied before and after a 2-month yogic intervention, as reported by **Singh et al. (2012)**. Sixty individuals with stable asthma were split evenly between a Yoga training group and a control group. There were 30 patients in each of the two groups. All patients' lung functions were measured at the beginning and end of the study, separated by two months. The TLCO, FVC, FEV1, PEFR, MVV, and SVC of subjects in Group 1 all increased after yoga practise, with the exception of the MVV, which decreased. The improvement in quality of life was likewise substantial. It was determined that the breathing exercises (pranayama) and the stretching exercises (yoga) help to improve one's respiratory endurance, soothe the body, and boost one's vitality.

Thakur & Bandopadhyay (2012) randomly chose one hundred (N-100) male students from schools in the Howrah District of West Bengal to participate in the research. Subjects were to be between the ages of 10 and 12, at the very most. All of the participants were randomly assigned to one of two groups. Gr. The letters Y and

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Gr. C. Gr. The Y group was an experiment that did yoga postures with the G group. Group C served as the sham. All individuals in both groups were put through a battery of tests measuring flexibility, body composition, school attitude inventory scale, and self-concept inventory scale, with Gr. They did Y for three days a week for a year, and then they were retested on several criteria. The t-ratio test was used to examine the data and determine the effectiveness of the intervention. After a year of yogic therapy, the yojanas group exhibited substantial improvements in flexibility tests, body mass index, percent body fat, school attitude, and self-concept, but not in lean body mass.

Using asanas and the labium programmer, **Asai and Rane (2011)** tested their effects on many measures of schoolboys' physical fitness. The study's goals are to assess the degree of physical fitness in 14–16-year-old male school students. Selected individuals were randomly assigned to either the control or experimental group. Seventy (n=70) male pupils from Our Lady of Nazareth's upper division. India's Bhayandar neighbourhood, namely the Mumbai district of Mumbai. The physical fitness test linked to health was used as the dependent variable. Six weeks later, the experimental group was placed through a rigorous training programme consisting of labium and yogic activities. examination of variance (ANOVA) was used for the statistical examination of the data. The authors find that health-related fitness metrics, including cardio respiratory endurance, abdominal strength and endurance, and flexibility, all saw substantial improvements. However, the effectiveness of the asana and labium training routine is drastically diminished when body fat percentage is taken into account.

Bharatha Priya and Gopinath (2011) looked into how yoga affected the flexibility of young men in school. Forty students aged 15–17 were chosen as subjects from A.R.R. Matriculation upper secondary school. Both a control group and an experimental group were made up of the subjects. Selected asanas and pranayama were practised by the experimental group five days a week for a total of twelve weeks. The non-training programmed control group continued working as usual. The sit and reach box was used to measure mobility. Every participant was given a test both

before and after their practise time concluded. Analysis of Covariance was used to evaluate differences between pre- and post-test scores. Twelve weeks of yoga practise significantly increased flexibility compared to the control group.

The impact of yoga practices on selected bio-chemical variables of overweight college males aged 19 to 25 was proposed by **Elangovan & Babu (2011)**. Both the experimental (N = 15) and control (N = 15) groups consisted of 30 individuals. The experimental group participated in yogic practise for 12 weeks, at a frequency of 4 times per week. Results from a pre- and post-training laboratory test on HDL, LDL, and body mass index were analyzed using an analysis of covariance (ANCOVA) to determine whether or not there was a statistically significant change. The author draws the conclusion that the is much higher because of HDL. However, low-density lipoprotein cholesterol was falling dramatically among overweight college males.

Researchers **Indla and Pandurang (2011)** investigated the impact of yoga on cardiovascular health. In recent years, cardiovascular mortality and morbidity have both risen in India. This research was conducted to examine the impact of yoga on cardiovascular function and blood pressure in healthy adults aged 40 and above. Before and after 6 months of yoga practise, the patients' clinical cardiovascular state was evaluated by measuring their resting heart rates and blood pressures. Age, sex, and BMI were used as variables to make comparisons and draw conclusions. The results showed that yoga practitioners had a statistically significant decrease in heart rate (P 0.001). There was a statistically significant decrease in systolic blood pressure (P 0.001). There was a statistically significant decrease in diastolic blood pressure (P 0.001). The results demonstrate that yoga significantly improves ageing by decreasing cardiovascular disease-related mortality and morbidity.

III METHODOLOGY

Subject Matter Selection

The researchers wanted to see what effect yogic practise had on college students' cardio respiratory endurance, muscular strength, muscular endurance, flexibility, body weight, percent body fat, fat mass, and lean body mass, both individually and in

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combination with other forms of physical activity.

Eighty college students ranging in age from 18 to 25 were chosen at random from Coimbatore Marine College in Coimbatore, Tamil for the purposes of this research. The participants were split up into four groups of twenty.

3.2 Choice of Measures and Procedures

The researcher went through all of the relevant books, periodicals, websites, and scholarly papers to have a better understanding of the issue. The following criteria and tests were chosen due to their availability and practicability:

Health Related Physical Fitness Components

S. No	Variables	Tests/Equipment's	Units
1	Cardio Respiratory Endurance	Coopers 12 Min run/walk	Mts
2	Muscular Strength	Push Ups	Nos
3	Muscular Endurance	Sit Ups	Nos
4	Flexibility	Sit and Reach	CMS
5	Body Weight	Weighing machine	kg
6	Percent Body Fat	Bio-electrical Impedance Analyzer (Omron Body Fat Monitor HBF-306)	(%)
7	Fat Mass	Fat Mass(kg) = Percentage body fat X body weight(kg)	kg
8	Lean Body Mass	Lean body mass(kg) = Body weight(kg) – Fat mass(kg)	kg

3.3 Experimental Design

The research protocol included a pretest and a post-test, making it a genuine random

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group design. Eighty participants (N=80) were divided at random into four groups of twenty. Physical activities, yogic practise, physical activity plus yogic practices, and a control group were randomly allocated to the four groups. Group I participated in Yogic Practices (YPG), Group II engaged in Physical Activities (PAG), Group III practised a hybrid of YPG and PAG (CYPWPAG), and Group IV served as a control. The control group did not engage in any training programmers, whereas the other four groups underwent the training for a total of twelve weeks (six days per week).

Instrumental Accuracy

The instruments, including the stop watch, the sit and reach box, and the weighing machine, performed as expected throughout the series of tests.

Initial Tests

In order to determine how much weight to give the patients, a pilot research was performed. Ten participants were chosen at random and put through training programmers while the experts and the researcher kept a close eye on them. The training regimen was built using the pilot study's participants' feedback, but individual variances were taken into account as well. Training tenets such as "Progression," "over load," and "Specificity" were adhered to as well.

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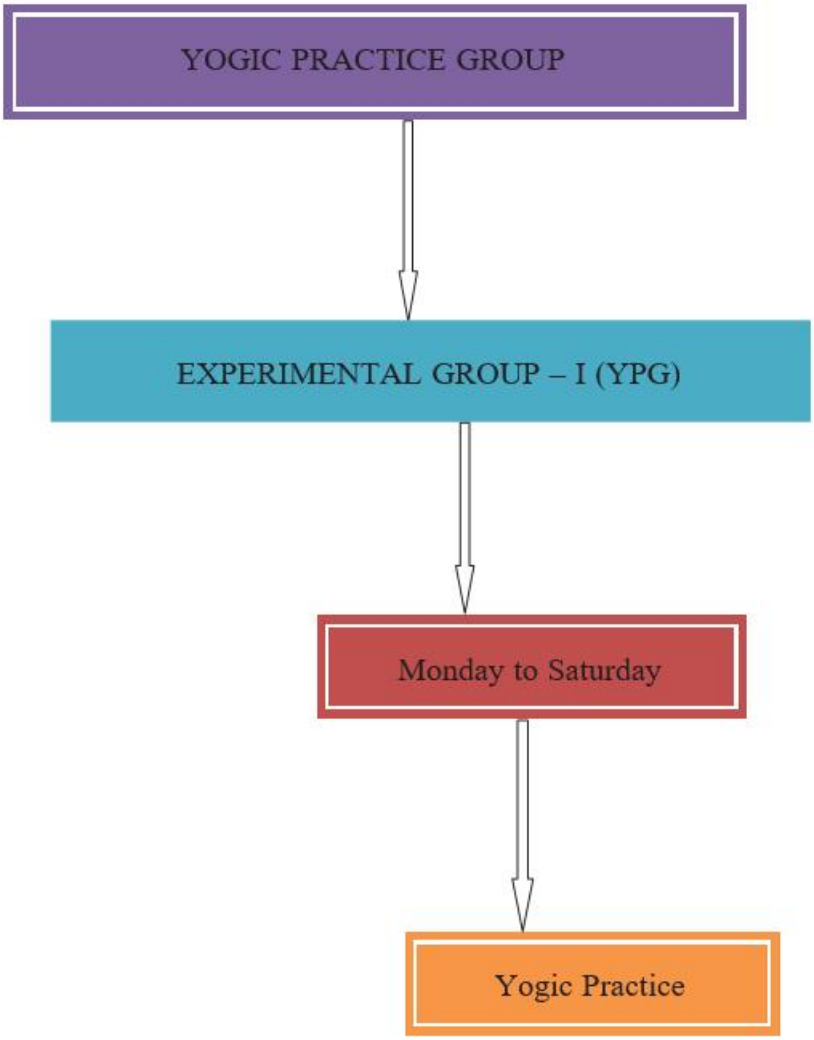

FLOW CHART SHOWING THE EXPERIMENTALTREATMENTADOPTED FOR EXPERIMENTAL GROUP-I

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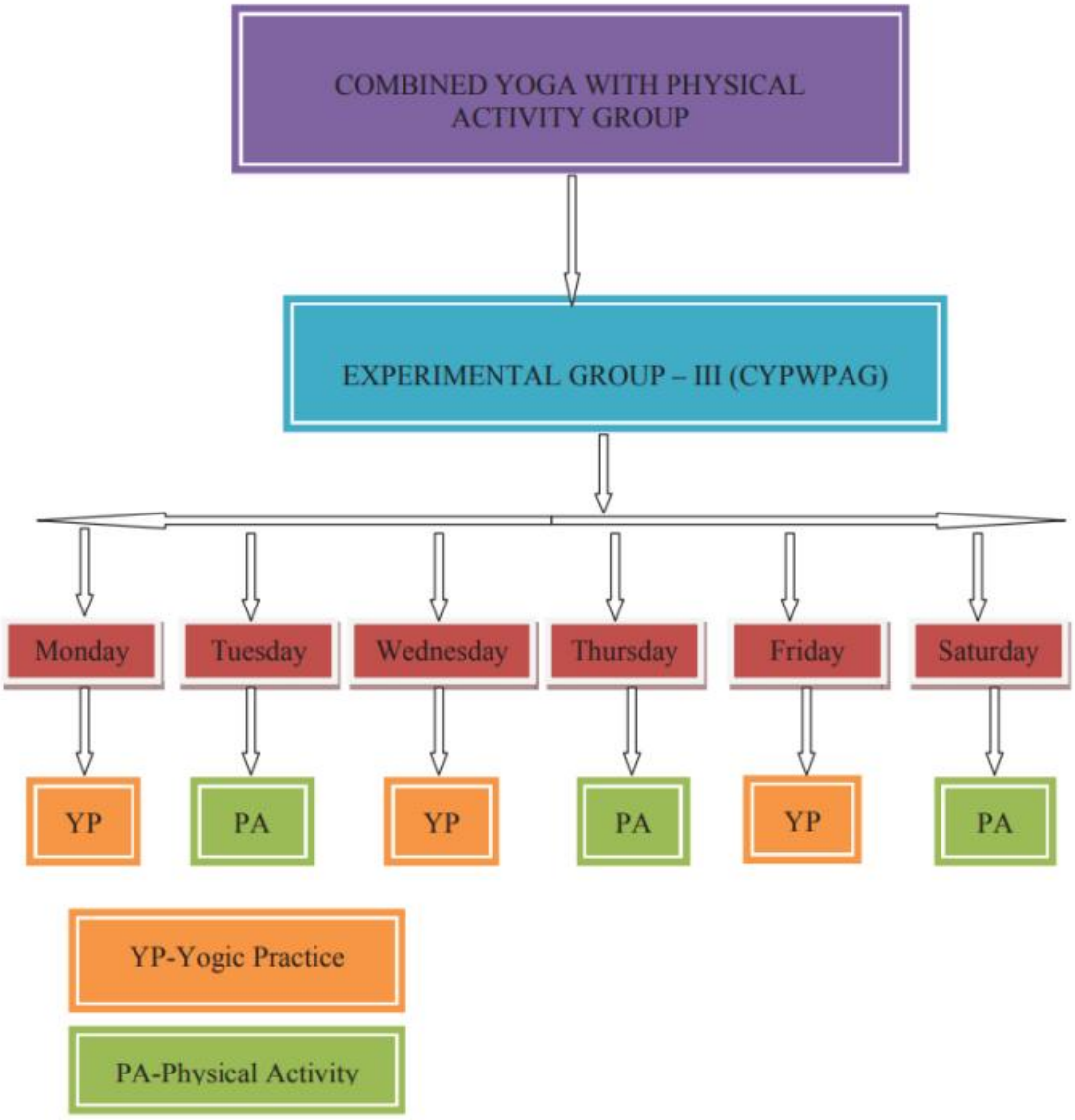

Methods of Statistics and Their Justification

The following statistical methods were used to analyse the data in light of the study's hypotheses and aims.

The significance of the mean improvements in each variable by the experimental groups was first tested using descriptive statistics and the paired 't' test. Since the groups were not equivalent with respect to the variables to be evaluated, analysis of covariance (ANCOVA) was used. Therefore, while analyzing the variations in means

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between the post-test groups, the pretest differences between the four groups needed to be included. The analysis of covariance was used to attain this goal; after controlling for variations in baseline means, the resulting means were then subjected to significance testing.

Scheat's post-ho test was used to determine the paired means difference if the adjusted post-test means were determined to be statistically significant. A significance threshold of 0.05 was used to assess the acquired findings on variables and was deemed appropriate for the research.

IV ANALYSIS AND INTERPRETATION OF DATA

Test of Significance

The analysis of the hypothesis that leads to a conclusion is the most important part of a thesis. It was decided that a level of confidence of 0.05 was appropriate for this investigation, thus a process was developed to test the hypothesis based on the data.

The tests are often known as the "test of significance" since their purpose is to determine whether or not a statistically significant difference exists between a group's pre- and post-test results. The hypothesis that there was a statistically significant difference between the means of the groups was accepted in the current investigation if the obtained F-ratio was more than the table F-ratio at the 0.05 level. The null hypothesis that there was no statistically significant difference between the means of the groups under investigation was rejected if the F-ratio produced was less than the table F-ratio at the 0.05 level.

4.2 Importance Degree

The findings must be subjected to a comprehensive degree of significance examination.

Statistical significance was set at 0.05 and was adequate for the research.

Test by Computing t

College students' pretest and post-test means were compared, and differences were described using the paired 't' ratio.

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As a consequence, this chapter provides a clear explanation of the data acquired, including interpretations based on previous research and helpful visual aids.

Table – 4.1

Comparing Yogic Practise Group (YPG) Members' Pre- and Post-Test Scores on Selected Variables and Finding Statistical Significance

S. No	Variables	Pre-Test Mean	Post-Test Mean	Mean difference	Std.Dev (±)	σ DM	't' Ratio
1	Cardio Respiratory Endurance	1853.20	2152.85	299.65	131.42	29.38	10.19*
2	Muscular Strength	20.90	30.60	9.70	3.77	0.84	11.50*
3	Muscular Endurance	33.80	41.55	7.75	3.19	0.71	10.85*
4	Flexibility	24.05	30.82	6.77	4.50	1.00	6.72*
5	Body Weight	70.11	67.53	2.58	4.00	0.89	2.88*
6	Percent Body Fat	38.26	31.23	7.03	2.22	0.49	14.13*
7	Fat Mass	26.84	21.09	5.75	2.13	0.47	12.04*
8	Lean Body Mass	43.27	46.44	3.17	2.95	0.66	4.79*

* Significant at 0.05 level

Cardio-respiratory endurance (10.19), muscular strength (11.50), muscular endurance (10.85), flexibility (6.72), body weight (2.88), percent body fat (14.13), fat mass (12.04), and lean body mass (4.79), and their respective 't' ratios for pre- and post-test mean differences are shown in Table 4.1. With a 0.05 level of confidence, the derived ratios were determined to be significantly different from the table value of 2.09 of the degrees of freedom (1, 19). Cardio-respiratory endurance (299.65 p0.05), muscular strength (9.70 p0.05), muscular endurance (7.75 p0.05), flexibility (6.77 p0.05), body

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weight (2.58 p0.05), percent body fat (7.03 p0.05), fat mass (5.75 p0.05), and lean body mass (3.17 p0.05) all showed statistically significant improvements from pre- to post-test, supporting the first hypothesis.

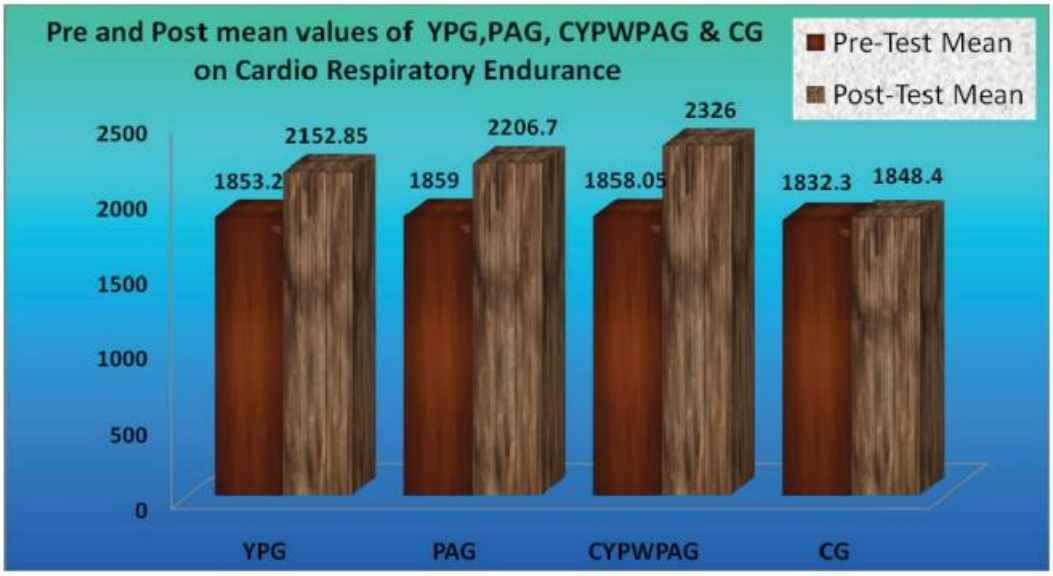

Fig: 4.1 Comparison of baseline and post test values for cardio-respiratory endurance variables YPG, PAG, CYPWPAG, and CG

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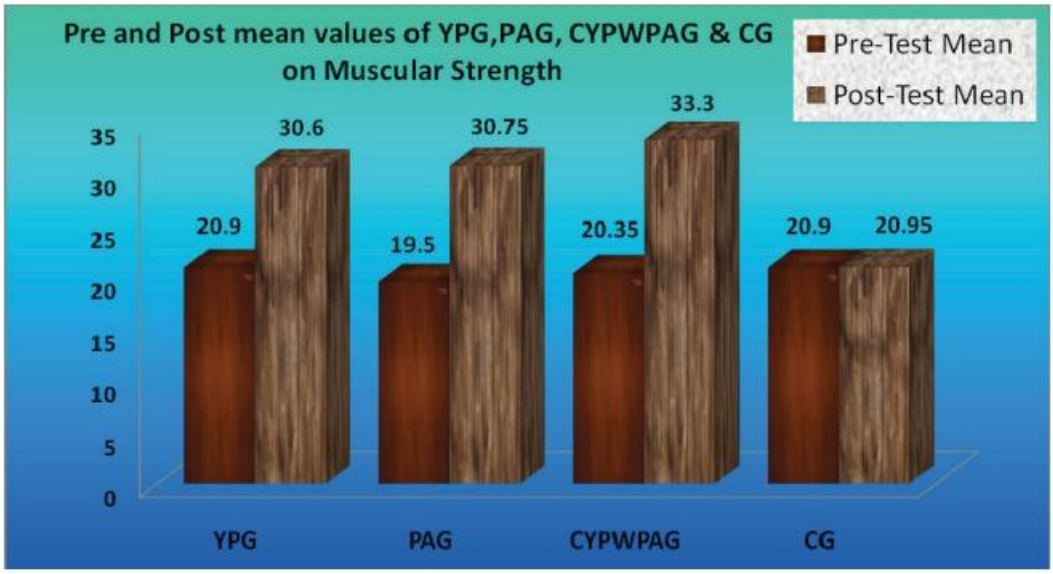
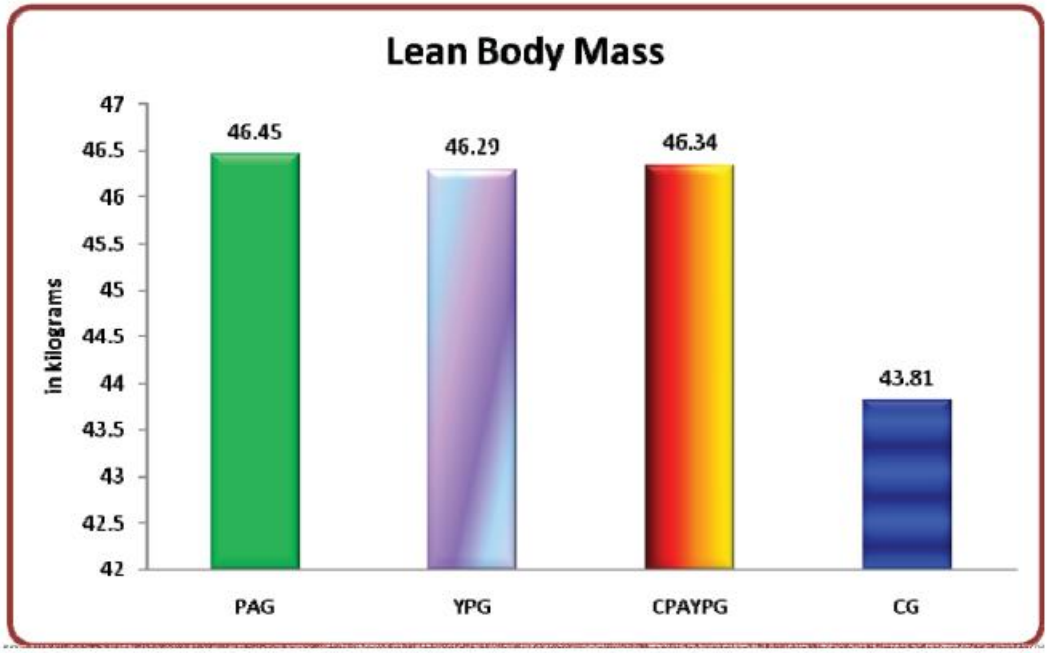


Fig: 4.2 Displays the averages of YPG, PAG, CYPWPAG, and CG before and after their effects on muscular strength



Analysis of Results

Cardio-respiratory endurance, muscular strength, muscular endurance, flexibility, body weight, percent body fat, fat mass, and lean body mass are only few of the

health-related physical fitness factors that have been shown to increase as a result of regular yoga practise.

Cardio-respiratory endurance, muscular strength, muscular endurance, flexibility, body weight, percent body fat, fat mass, and lean body mass were all shown to increase as a result of regular exercise, confirming the positive effect of physical activity on some health-related physical fitness components.

This research indicates that regular practise of a combination of yogic practices leads to gains in cardio-respiratory endurance, muscular strength, muscular endurance, flexibility, body weight, percent body fat, fat mass, and lean body mass, as well as gains in other measures of health-related physical fitness.

V Conclusions

The present study's findings make it clear that the experimental groups, including the Yogic Practise Group (YPG), the Physical Activity Group (PAG), and the Combined Yogic Practise with Physical Activity Group (CYPWPAG), significantly outperformed the Control Group (CG) on health-related physical fitness components. Cardio-respiratory endurance, muscular strength, muscular endurance, flexibility, body weight, percent body fat, fat mass, and lean body mass were also shown to be considerably greater in the experimental group than in the control group.

And in terms of cardio-respiratory endurance, muscular strength, muscular endurance, and flexibility, CYPWPAG outperformed both YPG and PAG.

Third, it was decided that yoga, in addition to other forms of physical activity, would be beneficial for college students' health.

According to the findings, a yogic lifestyle that also includes regular physical exercise is an optimal way to improve the health-related physical fitness component factors essential to everyday human functioning.

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