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Influence of Asanas and Combination of Asanas and Pranayama on Resting Pulse Rate among College Men

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Abstract

The purpose of the study was to find out the influence of asanas and combination of asanas and pranayama on resting pulse rate among college men. To achieve the purpose of the study, sixty students were selected from RKM Vivekananda college students, Chennai as subjects at random and their age was ranged from 17 to 22 years. The subjects were divided into three equal groups. The subjects (N=60) were randomly assigned to three equal groups of twenty men students each. The groups were assigned as experimental group-1 experimental group-2 and control group in an equivalent manner. Training programs for experimental group were designed separately. The scientifically designed programmes were given to the subjects of experimental group. The subjects of the control group were not participated in training. The treatment groups underwent the programme four days a week for a period of sixteen weeks with sixty minutes per session. In order to find out whether the obtained difference between the means of the selected variables in the pre test, mid test and post test are statistically significant, Repeated measures ANOVA was applied,. When the F ratio was found to be significant Newman-Keuls post hoc test was applied to test which of the possible comparison among the means are significant. Analysis of Covariance was applied to determine the significant difference among the three groups namely Asanas training group, Asanas with Pranayama training group and the control grouping the development of selected variables after 16 weeks of training. If the mean difference was significant, the pairs of adjusted final group means was tested for significance by applying Scheffe's post-hoc test. The results of the study reveal that the asanas training, asanas with pranayama training and control group had differed significantly in resting pulse rate. The asana training group and asanas with pranayama training group had significantly decreased the resting pulse rate than the control group, and the asanas with pranayama training group had significant decrease in resting pulse rate than the asanas training group. In the context of the present trend, the rational use of asanas training and asanas training with pranayama training is essential to decrease the resting pulse rate.

Keywords: Asana, Pranayama, Resting Pulse Rate, College Men.

Introduction

Yoga provides one of the best means of self-improvement and attaining one's full potential. In the advanced stages of yoga, super conscious states are attained which result in a feeling of bliss and deep peace emergence of psychic powers. Yoga was developed and perfected over the centuries by philosophers and mystics in India. It is basically a method by which we increase the body's supply of energy and remove any interference to the transmission of energy throughout the body. Yoga has specialized in this subject for thousands of years, and streamlined the methods to attain this aim **(Ray, 2011).**

Methodology

The purpose of the study was to find out the influence of asanas and combination of asanas and pranayama on resting pulse rate among college men. To achieve the purpose of the study, sixty students were selected from RKM Vivekananda College, Chennai as subjects at random and their age was ranged from 17to 22 years. The subjects were divided into three equal groups. The subjects (N=60) were randomly assigned to three equal groups of twenty men students each. The groups were assigned as experimental group-1 experimental group-2 and control group in an equivalent manner. Training programs for experimental group were designed separately. The scientifically designed programmes were given to the subjects of experimental group. The subjects of the control group were not participated in training. The treatment groups underwent the programme for four days a week for a period of sixteen weeks with sixty minutes per session.

In order to find out whether the obtained difference between the means of the selected variables in

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the pre test, mid test and post test are statistically significant, Repeated measures ANOVA was applied,. When the F ratio was found to be significant Newman-Keuls post hoc test was applied to test which of the possible comparison among the means are significant. Analysis of Covariance was applied to determine the significant difference among the three groups namely Asanas training group, Asanas with Pranayama training group and the control grouping the development of selected variables after 16 weeks of training. If the mean difference was significant, the pairs of adjusted final group means was tested for significance by applying Scheffe's post-hoc test.

Results

The following tables illustrate the statistical results of the influence of asanas and combination of asanas and pranayama on resting pulse rate among college men.

Table I. Summary of the Repeated Measures ANOVA of Asanas Training Group, Asanas with Pranayama Training Group and Control group in Resting Pulse Rate

S.No	Groups	Variables	Source of Variation	Sum of Squares	df	Mean Squares	F ratio
1	Asanas	Resting Pulse Rate	Treatment	17.433	2	8.717	56.141*
			Residual	5.900	38	.155	
2	Asanas With Pranayama	Resting Pulse Rate	Treatment	68.433	2	34.217	171.837*
			Residual	7.567	38	.199	
3	Control	Resting Pulse Rate	Treatment	1.233	2	.6165	2.590
			Residual	9.033	38	.238	

Table value for df 2 and 38 is 3.245

An examination of Table I indicates that the obtained F ratios of Asanas training group were greater than the required table value 3,245 at 0.05 level of confidence in resting pulse rate. It is inferred that the treatment means of these variables differ significantly. It is clear from the results that the mean gains in these variables among the pre test, mid test and post test were statistically significant. The obtained F ratio of Asanas with Pranayama training group was lesser than the required F ratio of 3.245 at .05 levels in resting pulse rate. It is inferred that the mean gains is statistically significant in resting pulse rate.

Figure I. Bar Diagram showing mean values of pre test, mid test and post test of Resting Pulse Rate of Asanas Training Group, Asanas and Pranayama Training Group and Control group

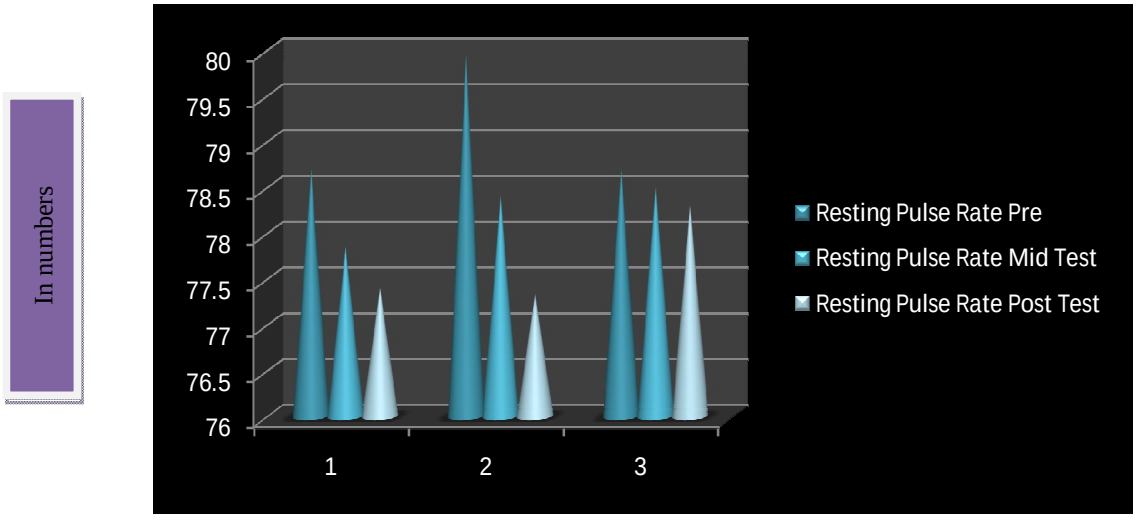


Table II. Analysis of Covariance on Pre, Post And Adjusted Post Test Means on Resting Pulse Rate among Asanas Training Group, Asanas with Pranayama Training Group and Control Group

Test	Asanas Training Group	Asanas With Pranayama Training Group	Control Group	Source of variance	Sum of Squares	df	Mean Squares	F-ratio
Pre-test Mean	78.70	79.95	78.70	Between Groups	20.833	2	10.417	.890
				Within groups	667.350	57	11.708	
Post-test Mean	77.40	77.35	78.30	Between Groups	11.433	2	5.717	.615
				Within groups	529.550	57	9.290	
Adjusted Post-test Mean	77.763	76.624	78.663	Between Groups	40.758	2	20.379	50.123*
				Within groups	22.769	56	.407	

* Table value for all ANCOVA tables 3.16 at 5% level of significance

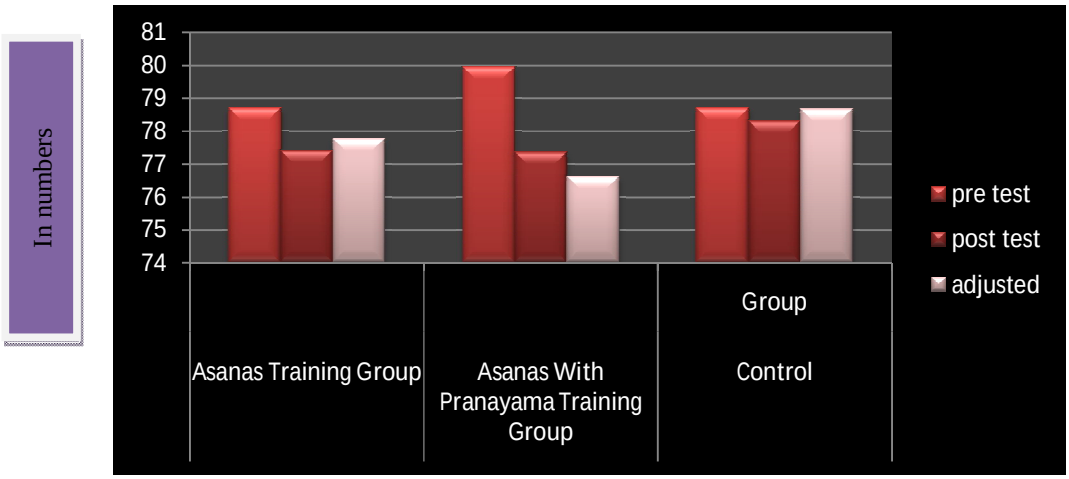
Table II reveals the computation of 'F' ratios on pre test, post test and adjusted post test means of Resting Pulse Rate of Experimental Group I, Experimental Group II and Control group. The obtained 'F' ratio for the pre test means of Resting Pulse Rate of Experimental Group I, Experimental Group II and control group is 0.890. Since the 'F' value was less than the required table value of 3.16 for the degrees of freedom 2 and 56, it was found to be not significant at 0.05 level of confidence. Further, the post test 'F' ratio 0.615 on Resting Pulse Rate was lower than the required table value of 3.16 for the degrees of freedom 2 and 56, hence it was found to be statistically not significant at 0.05 level of confidence. The obtained 'F' ratio for the adjusted post test means of Resting Pulse Rate of Experimental Group I, Experimental Group II and control group is 50.123. Since the 'F' value was higher than the required table value of 3.16 for the degrees of freedom 2 and 57, it was found to be statistically significant at 0.05 level of confidence. Since the obtained F ratio is found to be significant, Scheffe's Post hoc test was applied to find out which of the paired adjusted final means differ significantly, the results of the Scheffe's post hoc test was presented in Table-III.

Table III. Scheffe's Post hoc test for the differences between the paired Adjusted Post-test means of Resting Pulse Rate

Asanas Training Group	Asanas With Pranayama Training Group	Control Group	Mean difference	Scheffe's F	(k-1)F 5%
77.763	76.624		1.139	44.625*	6.324
77.763		78.663	0.900	27.862*	6.324
	76.624	78.663	2.039	143.011*	6.324

The Scheffe's F value for the mean difference between experimental group I and Experimental group II, between Experimental group I and control group and between experimental group II and control group were 44.625, 27.862 and 143.011 respectively. The values of Scheffe's F value of adjusted post test means were higher than that of the required Scheffe's F ratio 6.324 and it was found to be significant. From these results it was inferred that Asanas training and Asanas with Pranayama training produced better improvement on resting pulse rate than the control group. And it is also inferred that Asanas with pranayama training had significant reduction in resting pulse rate than the asanas training.

Figure II. Bar Diagram showing mean values of pre test, post test and adjusted post test of Resting Pulse Rate of Asanas Training Group, Asanas and Pranayama Training Group and Control group



Conclusion

The results of the analysis reveal that the asanas training, asanas with pranayama training and control group had differed significantly in resting pulse rate. The asana training group and asanas with pranayama training group had significantly decreased the resting pulse rate than the control group, and the asanas with pranayama training group had significant decrease in resting pulse rate than the asanas training group. In the context of the present trend, the rational use of asanas training and asanas training with pranayama training is essential to decrease the resting pulse rate.

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