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Efficacy of Asanas and Pranayama Practices on Resting Pulse Rate among Medical College Students

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Abstract

The purpose of the study was to find out the effects of asanas and pranayama practices on resting pulse rate among medical college students. To achieve this purpose of the study, forty five students Sri Venkateshwaraa Medical College Hospital and Research Centre, Ariyur, Pondicherry, India were selected as subjects at random. Their age ranged between 18 to 24 years. The selected subjects were divided into three equal groups of ten each namely asanas group, pranayama group and control group. The experimental group I underwent asanas practices, group II underwent pranayama practices for five days per week for twelve weeks whereas the control group (Group III) maintained their daily routine activities and no special training was given to them. The following variable namely resting pulse rate was selected as criterion variable. The subjects of the three groups were tested on flexibility using sit and reach test at prior and immediately after the training period. The collected data were analyzed statistically through analysis of covariance (ANCOVA) to find out the significant difference, if any among the groups. Whenever the obtained "F" ratio was found to be significant, the scheffe's test was applied as post hoc test to find out the paired mean difference,, if any. The .05 level of confidence was fixed to test the level of significance which was considered as an appropriate. The results of the study showed that there was a significant difference exists among asanas, pranayama and control groups on resting pulse rate. And also asanas group and pranayama group showed significant improvement on resting pulse rate when compared to control group.

Keywords: Asanas, Pranayama practices, resting pulse rate, Analysis of Covariance (ANCOVA), Scheffe's test.

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Introduction

Yoga relation to Indian philosophies discussed in this section. As well as the importance of acquainting yourselves sufficiently with Sanskrit language, as in explaining Yoga, one is often at a loss for the English equivalent of the manifold meanings of the Sanskrit tongue. The two great methods of Yoga, one related to the Self and the other to the Not-Self. Here, we are dealing only with the science of Yoga and not with other means of attaining union with the Divine. The scientific method is one that follows the old Indian conception. The Yoga we are studying specially concerns the Marga of Jnanam or knowledge, and within that way, within that Marga or path of knowledge, we find that three subdivisions occur, as everywhere in nature. Pranayama is the fourth "anga" in Raja yoga. Pranayama means breath control. In other words it is the control of air by means of inhalation holding the air and exhalation. Mainly the pranayama is used to prepare the mind for meditation.

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Methodology

The purpose of the study was to find out the effects of asanas and pranayama practices on resting pulse rate among medical college students. To achieve this purpose of the study, forty five students from Sri Venkateshwaraa Medical College Hospital and Research Centre, Ariyur, Pondicherry, India were selected as subjects at random. Their age ranged between 18 to 24 years. The selected subjects were divided into three equal groups of ten each namely asanas group, pranayama group and control group. The experimental group I underwent asanas practices, group II underwent pranayama practices for five days per week for twelve weeks whereas the control group (Group III) maintained their daily routine activities and no special training was given to them. The following variable namely resting pulse rate was selected as criterion variable. The subjects of the three groups were tested on flexibility using sit and reach test at prior and immediately after the training period. The collected data were analyzed statistically through analysis of covariance (ANCOVA) to find out the significant difference, if any among the groups. Whenever the obtained "F" ratio was found to be significant, the scheffe's test was applied as post hoc test to find out the paired mean difference,, if any. The .05

level of confidence was fixed to test the level of significance which was considered as an appropriate.

Analysis of the Data

The analysis of covariance on resting pulse rate of asanas group, pranayama group and control group have been analyzed and presented below.

Table 1

Analysis of covariance of the data on resting pulse rate of pre and post tests scores of asanas, pranayama and control groups

| Test | Asanas group | Pranayama group | Control Group | Source of Variance | Sum of Squares | df | Mean Squares | Obtained 'F' Ratio |
|--------------------|--------------|-----------------|---------------|--------------------|----------------|----|--------------|--------------------|
| Pre Test | | | | | | | | |
| Mean | 67.32 | 67.47 | 67.2 | Between | 0.0086 | 2 | 0.004 | 0.10 |
| S.D. | 0.666 | 0.718 | 0.653 | Within | 1.49 | 42 | 0.04 | |
| Post Test | | | | | | | | |
| Mean | 66.81 | 66.47 | 67.13 | Between | 0.914 | 2 | 0.457 | 3.81* |
| S.D. | 0.598 | 0.718 | 0.618 | Within | 4.84 | 42 | 0.12 | |
| Adjusted Post Test | | | | | | | | |
| Mean | 66.92 | 66.35 | 67.26 | Between | 0.989 | 2 | 0.495 | 5.50* |
| | | | | Within | 3.92 | 41 | 0.09 | |

* Significant at .05 level of confidence.

(The table values required for significance at .05 level of confidence for df 2 and 42 and 2 and 41 are 3.22 and 3.23 respectively).

The adjusted post-test means of asanas group, pranayama group and control group on resting pulse rate are 66.92, 66.35 and 67.26 respectively. The obtained "F" ratio of 5.50 for adjusted post-test means is greater than the table value of 3.23 for df 2 and 41 required for significance at .05 level of confidence on resting pulse

rate. Since, three groups were compared whenever the obtained "F" ratio for the adjusted post test was found to be significant, the scheffe's test was applied as post hoc test to find out the paired mean differences, if any and it was presented in table 2.

Table 2

The scheffe's test for the differences between paired means on resting pulse rate

| Asanas group | Pranayama group | Control Group | Mean Differences | Confidence Interval Value |
|--------------|-----------------|---------------|------------------|---------------------------|
| 66.92 | 66.35 | - | 0.57* | 0.29 |
| 66.92 | - | 67.26 | 0.34* | 0.29 |
| - | 66.35 | 67.26 | 0.91* | 0.29 |

* Significant at .05 level of confidence.

The table 2 showed that the mean difference values between asanas group and pranayama group, asanas group and control group, pranayama group and control group on resting pulse rate were 0.57, 0.34 and 0.91 respectively which were greater than the required confidence interval value 0.29. The results of the study showed that there was a significant difference between

asanas group and pranayama group, asanas group and control group, pranayama group and control group on resting pulse rate.

Results and Discussions

Based on the results of the study, the following conclusions were made,

1. The results of the study showed that there was a significant difference among asanas group, pranayama group and control group on resting pulse rate.
2. And also it was showed that there was a significant improvement on resting pulse rate due to asanas and pranayama practices, whereas the improvements were in favour of pranayama practices.

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