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Effects of yogasanas on physiological and psychological variables of high school girls

Deepa S Rathod and Dr. Sakpal Hoovanna

Abstract

The purpose of this pilot study was to “Effects of yogasanas on Physiological and Psychological variables of High School Girls”. 50 purposively selected Students in Government High School Madhurakhandi, tq: Jamakhandi, Dist: Bagalkot, Karnataka. The age group of the subjects range between 13-16 years. Students were given the training of selected yogasanas for 2 weeks Result shows that the regular practice of yoga improved Physiological variables (Resting Heart Rate, Blood Pressure, Vo2max) & Psychological variables (Stress and Self-Confidence) significantly. Subjects were assigned into two groups: A (control:N-25) and B (experimental:N-25). To find out the differences between pre test and post test performance and to compare the improvements of two groups. The level of significance was 0.05.

Keywords: Yogasanas, psychological variables, high school girls, yoga practice

Introduction

Yoga is the art and science of healthy living and is concerned with the which focuses on bringing harmful between mind and body. According to modern scientists, everything in the universe is just a manifestation of the same quantum firmament. Living with freedom in all walks of life, health and harmony shall be the main objectives of Yoga practice. Therefore, yoga incorporates a system of disciplines for furthering an integrated development of all aspects of the individual. Through the practice of the physical postures, or yogasanas, the spinal column as well as the muscles and joints are maintained in a healthy and supple state. The creative energies in a constructive way, and child exhibits more self-confidence, self-awareness and self-control. As yoga's popularity grows, more and more avenues of this ancient practice are begin explored. Yoga for student, quite a modern concept, grew out of parents, thinking their children could enjoy some of the benefits of yoga that adult do, such as, improved body awareness, co-ordination and stress relief. They can be due to various factors relating to physical, emotional, mental and responsible role in bringing up young children in a healthy environment which would enable each one to maximize their potential. Yet the potential of the school to enhance health is often underutilized. “School Health” has largely remained confined to medical checkups of children or some hours of health instruction including yoga in the curriculum. Yoga is a form of complete education that can be used with all students because it develops physiological and psychological variables, and creative talents. In this study a sincere effort has been made to investigate the effects of yogasanas on physiological psychological variables of high school girls.

Statement of the Problem

The purpose of this study was to the Effects of Physiological and Psychological variables of High School Girls.

Methodology

Total 50 girls were selected for this study. 25 experimental and 25 control. The students of Government High School Madhurakhandi, tq: Jamakhandi, Dist: Bagalkot, Karnataka. The average age of the subjects was ranging from 13-16 years.

Following tests were utilized for the Pilot study

| VARIABLES | Tests /Tools Administered | Unit of Measurement |
|-------------------------|---|---------------------|
| Physiological variables | | |
| Heart Rate | Stop watch and stethoscope | No of Beats |
| Blood pressure | Sphygmomanometer | Mm/Hg |
| Vo2 max | Harvard step test | No of beats |
| Psychological Variables | | |
| Stress | Questionnaire (Dr. Vijayalakshmi & Dr. Shruti Narain) | Scores |
| Self-Confidence | Questionnaire (M. Basavanna) | Scores |

Data Collection

All data were collected, when they were attending their regular classes. The researcher her-self specialize in yoga and administered the yoga program. The subjects were participated in yoga training program six days in a week at indoor hall, only for a period of 2 weeks. Necessary instruction was given by yoga instructor, to the subject before the administration of training program. The required data in different components was collected from the students during training. Measuring Physiological variables organized at 1st, 2nd, 3rd, 4th and 5th days while psychological measurement were taken 6th day. After collection of pre-test scores on all the selected variables, on the same subject after two weeks yoga

training, the post test was conducted and data were collected health, physiological and psychological variables.

Statistical Procedure

For analysis of the data collected from control and experimental group of girls, Mean and SD was computed to find out the “effect of yogasanas on physiological & psychological variables of high school girls”. “t” test was applied. For testing the hypothesis. level of significance was set at. 05 levels. Shows the mean, SD, and t-value of the control group. In this analysis mean value of control group have minor improvement in Heart rate and no any changes in systolic BP, diastolic BP and Vo2 max were found.

Table 1: showing the Mean, SD and t-value of Control Group

| Group | Variables | Test | N | Mean | SD | t-value | sig |
|---------------|--------------------|-----------|----|--------|-------|---------|-----|
| Control Group | Resting Heart rate | Pre test | 25 | 72.07 | 0.88 | 1.14 | NS |
| | | Post test | 25 | 71.87 | 1.13 | | |
| | Systolic BP | Pre test | 25 | 118.44 | 4.44 | 0.54 | NS |
| | | Post test | 25 | 117.92 | 5.24 | | |
| | Diastolic BP | Pre test | 25 | 82.36 | 4.63 | 1.65 | NS |
| | | Post test | 25 | 80.16 | 3.73 | | |
| | Vo2 max | Pre test | 25 | 59.88 | 5.73 | -1.03 | NS |
| | | Post test | 25 | 61.12 | 6.35. | | |

0.05 level of significance

Table1 shows the mean, S.D. and‘ t’ values of RHR, SBP, DBP, and Vo2 max of High school girls of control group. Pre-Test mean and S.D. value of RHR has been calculated as 72.07 bpm ±0.88 whereas mean and S.D. value of post test were found to be 71.87bpm ±1.13 when t-test was applied it has shown the1.14 value which in non-significant at 0.05 level. And SBP Pre-Test mean and S.D. value has been calculated as 118.44 mm Hg ±4.44 whereas mean and S.D. value of post-test were found to be117.92 mm Hg ± 5.24 when t-test was applied it has shown the. 54 value which in

non-significant differences in this group. as well as pre-test mean and S.D value of DBP has been calculated as 82.36mm Hg ±4.63 whereas mean and S.D. value of post test were found to be80.16 mm Hg ± 3.73 when t-test was applied it has shown the 1.65 value which in non-significant at 0.05 level. And the mean and S.D. value of RHR has been calculated as 59.88 bpm ± 5.73 whereas mean and S.D. value of post test were found to be 61.12bpm ±6.35 when t-test was applied it has shown the-1.03 value which in non-significant at 0.05 level.

Table 2: Showing the Mean, SD and t-value of Experimental Group of yoga training

| Group | Variables | Test | N | Mean | SD | t-value | Sig |
|--------------------|--------------------|-----------|----|--------|------|---------|-----|
| Experimental Group | Resting Heart Rate | Pre test | 25 | 84.8 | 5.02 | 2.43 | S |
| | | Post test | 25 | 80.5 | 3.16 | | |
| | Systolic BP | Pre test | 25 | 120.92 | 1.8 | 5.6 | S |
| | | Post test | 25 | 116.24 | 3.74 | | |
| | Diastolic BP | Pre test | 25 | 84.8 | 5.02 | 2.43 | S |
| | | Post test | 25 | 80.5 | 3.16 | | |
| | Vo2 max | Pre test | 25 | 30.08 | 5.25 | -4.72 | S |
| | | Post test | 25 | 64.36 | 5.23 | | |

Table 2 shows the mean, S.D. and‘ t’ values of RHR, SBP, DBP, and Vo2 max of High school girls of experimental group. Pre-Test mean and S.D. value of RHR has been calculated as 84.8 bpm ±5.02 whereas mean and S.D. value of post-test were found to be 80.5bpm ±3.16 when t-test was applied it has shown the2.43 value which in significant at 0.05

level. And SBP Pre-Test mean and S.D. value has been calculated as 120.92 mm Hg ±1.8 whereas mean and S.D. value of post-test were found to be 116.24 mm Hg ±3.74 when t-test was applied it has shown the 5.6 value which in significant differences in this group. as well as pre-test mean and S.D value of DBP has been calculated as 84.8mm Hg

±80.5 whereas mean and S.D. value of post-test were found to be 80.5 mm Hg ± 3.16 when t-test was applied it has shown the 2.43 value which is significant at 0.05 level. And the mean and S.D. value of RHR has been calculated as 30.08 bpm ± 5.25 whereas mean and S.D. value of post-test were found to be 64.36bpm ±5.23 when t-test was applied it has shown the -4.72 value which is significant at 0.05 level.

Psychological variable

In psychological variable stress was measured by a score which was described by Dr. Vijayalakshmi & Dr. Shruti Narain and the self-confidence was evaluated by a measure which was proposed by M Basavanna. The reliability of such scores has already had been done earlier. The final form of the

stress scale have 40 true-false type item and self-confidence have 100 true-false type items that works as parameter to check stress level and self confidence level of the adolescence. After calculating stress and self-confidence raw scoring key interpretation of individual score has been on the basis of criteria depicted in table No3:

Table 3

| Stress | | Self confidence | |
|------------|------------|-----------------|------------|
| Row scores | Dimensions | Row scores | Dimensions |
| 0-13 | Low | 0-22 | High |
| 14-24 | Moderate | 23-55 | Moderate |
| 25-above | High | 56-above | Low |

Table 4: showing of Mean, SD and t-value of Control Group of Stress of self confidence

| Group | Variables | Test | N | Mean | SD | t-value | Sig |
|---------------|-----------------|-----------|----|-------|-------|---------|-----|
| Control Group | Stress | Pre test | 25 | 26.04 | 5.55 | -0.11 | NS |
| | | Post test | 25 | 26.28 | 9.55 | | |
| | Self Confidence | Pre test | 25 | 55.56 | 19.52 | -0.02 | NS |
| | | Post test | 25 | 55.62 | 17.66 | | |

Table 5 shows the mean, S.D. and 't' values of Stress and self-confidence of High school girls of control group. Pre-Test mean and S.D. value of stress has been calculated as 26.04 ±5.55 whereas mean and S.D. value of post-test were found to be 26.28±9.55 when t-test as applied it has shown the -0.11 value which is non-significant at 0.05 level. And self-

confidence Pre-Test mean and S.D. value has been calculated as 55.56 ±19.52 whereas mean and S.D. value of post-test were found to be 55.62 ±17.66 when t-test was applied it has shown the -0.02 value which is non-significant differences in this group.

Table 5: showing of Mean, SD and t-value of Experimental Group of Stress of self-confidence of Yoga Training

| Group | Variables | Test | N | Mean | SD | t-value | Sig |
|--------------------|-----------------|-----------|----|-------|-------|---------|-----|
| Experimental Group | Stress | Pre test | 25 | 25.12 | 4.49 | 4.498 | S |
| | | Post test | 25 | 20.24 | 2.86 | | |
| | Self Confidence | Pre test | 25 | 54.96 | 18.05 | 1.529 | S |
| | | Post test | 25 | 49 | 7.96 | | |

Table 5 shows the mean, S.D. and 't' values of Stress and self-confidence of High school girls of experimental group. Pre-Test mean and S.D. value of stress has been calculated as 25.12 ±4.49 whereas mean and S.D. value of post-test were found to be 20.24±2.86 when t-test as applied it has shown the 4.49 value which is significant at 0.05 level. And self-confidence Pre-Test mean and S.D. value has been calculated as 54.96 ±18.05 whereas mean and S.D. value of post-test were found to be 49±7.96 when t-test was applied it has shown the 1.52 value which is significant differences in this group.

Conclusion

Significant difference was observed on the variables of Heart rate, systolic blood pressure, diastolic blood pressure, and vo2 max as a result of yoga training. The present study suggests that a 2-week of yoga training had significant effect on Heart rate, systolic blood pressure, diastolic blood pressure, and vo2 max and in the psychological variables of stress and self-confidence there was a significant improvement in the both scores in this study. Through a variety of effects including relaxation, bending stretching, and balancing of muscles, improvement of posture and breathing, action on pressure points, calming the nervous system.

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