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EFFECT OF MEDITATION AND AEROBIC EXERCISE ON SELECTED PHYSIOLOGICAL VARIABLES OF SECONDARY SCHOOL CHILDREN

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ABSTRACT :

The study was carried to assess the Effect of Meditation and Aerobic Exercise on Selected Psychological Variables of Secondary School Children of Nagthan high school of Vijayapur District of Karnataka, research variables are stress, Anxiety, the total sample 100 was selected using random technique from school, their age ranges from 14 to 17 year. Before and after imparting meditation and aerobic training, data was collected by administering standardized on sample of subgroup, total eight week training was given, and the collected data was examined by statistical tools, the results shown that meditation training and technique was affected positively in decreasing the anxiety and stress factors of sample comparing to aerobic training.

KEYWORDS : *Effect of Meditation and Aerobic Exercise on Selected Physiological Variables.*

INTRODUCTION:

Meditation has been practiced for thousand of year .Meditation originally was meant to help deepen understanding of the sacred and mystical forces of life .These days; meditation is commonly used for relaxation and stress reduction. Meditation is considered a type of mind – body complementary medicine. Meditation produces a deep state of relaxation and a tranquil mind. During meditation, you focus your attention and eliminate the stream of jumbled thoughts that may be crowding your mind and causing stress. This process may result in enhanced physical and emotional well-being.

Meditation is an excellent way to unwind after an eventful day. Life can at times be stressful, triggered by various factors such as work, family and life in general. Our children are not immune to stress either, they also undergo quite considerable amount of stress on a daily basis. School-based assignments', feuds between their parents and other factors can contribute to stress .If your child is stressed and you don't know where to start, learn how to manage stress through meditation.

MEDITATION:

There are different ways to meditate, and since it's such a personal practice there are probably more than any of us know about. There are a couple that are usually focused on heavily insist scientific research, though. These are focused-attention, or mindful meditation, which is where you focus on one specific thing—it could be your breathing, a sensation in your body or a particular object outside of you. The point of this type of meditation is to focus strongly on one point and continually bring your attention back to that focal point when it wanders.

The other type of meditation that's often used in research is open-monitoring meditation. This is where

you pay attention to all of the things happening around you—you simply notice everything without reacting.

TYPES OF MEDITATION:

The different types of meditation techniques that have evolved from Hinduism, Christianity, and Buddhism can be classified under five categories:

1. Concentration Meditation
2. Reflective Meditation
3. Mindfulness Meditation

PHYSIOLOGICAL BENEFITS OF MEDITATION:

- Lowers high blood pressure.
- Lowers the level of blood lactate, reducing anxiety attacks.
- Decreases any tension –related pain such as tension headaches ulcers, insomnia, muscle and joint problems.
- Increases serotonin production that improves mood and behaviour.
- Improves the immune system.
- Increases the energy level, as you gain inner sources of energy.

AEROBIC EXERCISES:

Constant moderate intensity work that uses up oxygen at a rate in which the cardio respiratory system can replenish oxygen in the working muscles. Examples of such activity are exercises like stationary bike riding or walking. It is a good activity for fat loss when done in the right amounts but highly catabolic if done in excess.

Aerobic exercise causes you to repeatedly move the largest muscles in your legs, hips and arms. Your heart and respirator rates increase and your body benefits in many ways -- you burn calories, lower your risk of heart disease, and boost your mood, immunity and stamina. The Centre's for Disease Control and Prevention recommend 150 minutes per week of moderate-intensity aerobic exercise. Aerobic dance is a choreographed, repetitive movement routine set to music. A typical aerobics program begins with 5 to 10 minutes of warm-ups and stretching, peaks with 20 to 30 minutes of target heart range dance, can include 20 minutes of a muscle stretching floor program known as body sculpting, and ends with 5 to 10 minutes of cool down and more stretching, according to the American Academy of Podiatric Sports Medicine.

PULSE RATE:

The number of times heart contracts in each minute while the body is at rest. The number of beats of a pulse per minute or the number of the beats of the heart and entries per minute. The number of beats felt in exactly in one minute is known as pulse rate.

VO2 max:

The maximum or optimum rate at which the heart, lungs , and muscles can effectively use oxygen during exercise, used as a way of measuring a person's individual aerobic capacity.

HYPOTHESIS:

- It was hypothesized that eight weeks meditation training reduce pulse rate performance.
- It was hypothesized that eight weeks meditation training developed maximum oxygen consumption (vo2 max).
- It was hypothesized that eight weeks aerobic training develops stress.
- It was hypothesized that eight weeks aerobic training develops anxiety .
- It was hypothesized that eight weeks aerobic training reduce the pulse rate performance.
- It was hypothesized that eight weeks aerobic training develops maximum oxygen consumption (vo2 max).

LIMITATION:

- A total of 120 children were included, later randomly divided and allocated into three groups of s

• control, meditation and exercise (40 in each group).
• No motivational techniques applied while testing and training of the subjects.
• The daily routine work of the subjects might influence results, this is considered as limitation.
• Day to day activities, rest period, food habits and life style could not be controlled this is also considered as limitation of the study.

DELIMITATIONS:

• This study was confined to secondary school students who are studying in 8 to 10 standard.
• The study was delimited to the age group of 14 to 16 years girls.
• This studies the selected aerobic exercises.
• This studies the physiological variables vo2 max, pulse rate of school children.
• The study is delimited to 120 non sports person as subjects for the study.
• The study is delimited to female as subjects for the study
• The study will be delimitated to Vijayapur district of Karnataka state.

SIGNIFICANCE OF THE STUDY:

• 8 weeks of meditation and aerobic exercise training may useful for improvement on physical, physiological, psychological variables of school children.
• The study may useful for teachers and students to know physiological performance of the school children.
• The study helps to know the effect of meditation and aerobic exercise on physiological and psychological variables of school children.
• The findings of this study will helpful to the students and Teacher to improve their physiological and psychological fitness.

METHODOLOGY:

The methodology adapted for the present study "Effect of Meditation and aerobic exercise on selected Physiological and variables of secondary school children" selection of subjects, experimental design, selection of variables, selection of tests, experimental design, selection of tests, collection of data and statistical procedure have been explained in this chapter.

SELECTION OF SUBJECTS:

The purpose of the study was to find out the" Effects of Meditation and aerobic exercise on selected Physiological and variables of secondary school children ".age of the subjects ranged from 13to17 year's girls and boys. The investigator was explaining the purpose, nature, study.

SELECTION OF VARIABLES:

The research scholar reviewed the various scientific literatures pertaining to and yoga training on selected physical and physiological variables from books, journals, and research papers, taking into consideration the feasibility of criteria, availability of instruments and the relevance of the variables of the present study, the following variables was select

Table No: 4.1

Results of paired t test between pre-test and post-test physiological variable pulse rate scores of secondary school children in control, meditation and aerobic group.

Groups	Time	Mean	SD	Mean Diff.	SD Diff.	% of change	Paired t	p-value
Control group	Pre-test	72.33	8.08	-0.05	6.30	-0.07	-0.0502	0.9602
	Post-test	72.38	7.52					
Meditation group	Pre-test	72.78	9.34	22.28	7.64	30.61	18.4415	0.0001*
	Post-test	50.50	5.52					
Aerobic group	Pre-test	73.20	3.46	3.65	8.78	4.99	2.6298	0.0122*
	Post-test	69.55	8.78					

*Significant at 0.05level. Table value 1.96

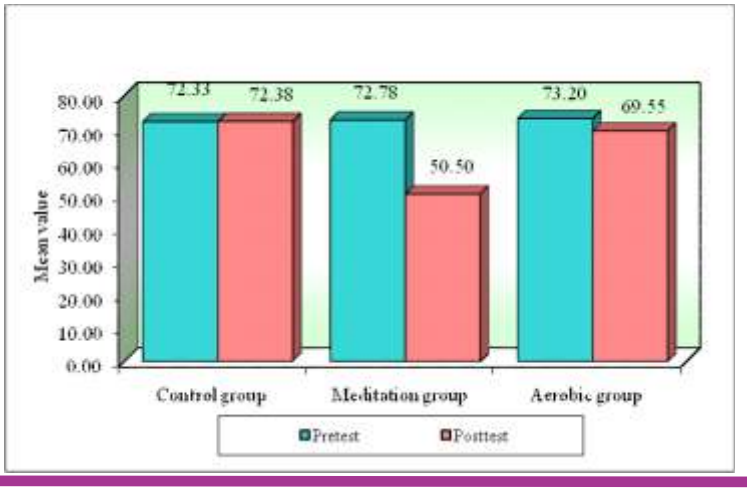
From the results of the above table 4.1 indicate that

Non-significant difference is observed between pre-test and post-test physiological variable pulse rate scores of secondary school children in control group (t=-0.0502, p>0.05) at 5% level of significance. Hence, the null hypothesis is not rejected. Hence the pre-test (72.33±8.08) and post-test (72.38±7.52) physiological variable pulse rate scores of secondary school children are similar in control group.

1. A significant difference is observed between pre-test and post-test physiological variable of pulse rate scores of secondary school children in Meditation group (t=18.4415, p<0.05) at 5% level of significance. Hence, the null hypothesis is rejected. It means that, the post-test (50.50±5.52) physiological variable pulse rate scores of secondary school children are significant as compared to pre-test (72.78±9.34) in Meditation group.
2. A significant difference is observed between pre-test and post-test physiological variable of pulse rate scores of secondary school children in Aerobic group (t=2.6298, p<0.05) at 5% level of significance. Hence, the null hypothesis is rejected. Hence the posttest (69.55±8.78) physiological variable of pulse rate scores of secondary school children are significant as compared to pre-test (73.20±3.46) in Aerobic group. The mean physiological variable of pulse rate scores of secondary school children are also presented in the figure:4.1(a)

Figure: 4.1

Comparison of pre-test and post-test physiological variable pulse rate scores of secondary children in control, meditation and aerobic group



Results of paired t test between pre-test and post-test physiological variable Vo2 max scores of secondary school children in control, meditation and aerobic group.

Groups	Time	Mean	SD	Mean Diff.	SD Diff.	% of change	Paired t	p-value
Control group	Pre-test	420.25	57.71	0.62	81.18	0.15	0.0487	0.9614
	Post-test	419.63	50.77					
Meditation group	Pre-test	419.38	44.98	-161.38	93.64	-38.48	-10.8998	0.0001*
	Post-test	580.75	93.79					
Aerobic group	Pre-test	421.25	72.19	-936.50	232.68	-222.31	-25.4550	0.0001*
	Post-test	1357.75	240.04					

*Significant at 0.05level. Table value 1.96

From the results of the above table 4.2 indicate that

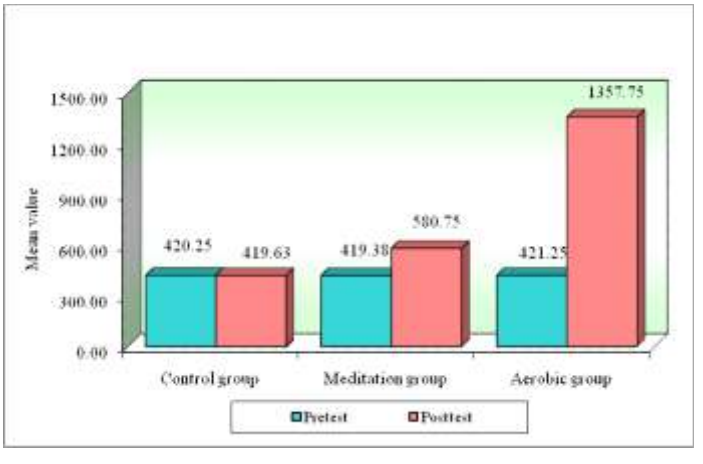
• Non-significant difference is observed between pre-test and post-test physiological variable i.e. Vo2 max scores of secondary school children in control group (t=0.0487, p>0.05) at 5% level of significance. Hence, the null hypothesis is not rejected. Hence the pre-test (420.25±57.71) and post-test (419.63±50.77) physiological variable of Vo2 max scores of secondary school children are similar in control group.

• A significant difference is observed between pre-test and post-test physiological variable of Vo2 max scores of secondary school children in Meditation group (t=-10.8998, p<0.05) at 5% level of significance. Hence, the null hypothesis is rejected. Hence the post-test (580.75±93.79) physiological variable Vo2 max scores of secondary school children are significant as compared to pre-test (419.38±44.98) in Meditation group.

• A significant difference is observed between pre-test and post-test physiological variable of Vo2 max scores of secondary school children in Aerobic group (t=25.4550, p<0.05) at 5% level of significance. Hence, the null hypothesis is rejected. Hence the posttest (1357.75±240.04) physiological variable of Vo2 max scores of secondary school children are significant as compared to pre-test (421.25±72.19) in Aerobic group. The mean physiological variable of Vo2 max scores of secondary school children are also presented in the figure 4.2(b)

Figure: 4.2

Comparison of pre-test and post-test physiological variable Vo2max scores of secondary school children in control, meditation and aerobic group



Based on the findings the following conclusion were draw from the present study.

• Eight weeks of Aerobic exercise training has shown significant improvement on physiological performance variables of the subject.

RECOMMENDATION:

• Based on the results of the study the following recommendations were drawn by the investigator.
• The result of the study may help the physical education teachers to improve the physiological and psychological performance variables of the students.
• Coaches/trainer can utilize the outcome of the study in their training programme.
• Similar study may be Conducted to examine the effect of meditation and Aerobic exercises physiological and psychological variables for the different age groups .
• Further similar researcher may be undertaken considering secondary school girls students.
• Similar study may be replicated with medium duration different intensities of the training other than mentioned in the present study.
• Continuous and regular meditation and aerobic exercises programme, in an organized manner has to be suggested for the participant to obtain desired results .in their physiological and psychological variables .

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