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Influence of meditation and asana practices on selected psychomotor profiles among women handball players

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Abstract

The purpose of this study was to examine the effect of eight weeks of meditation practices and asanas on selected psychomotor profiles such as auditory reaction time and visual reaction time of women handball players. For these purpose 30 Handball players aged 18 to 22 years from the Department of Physical Education and Sports Sciences, Annamalai University, took part in the study. Selected subjects were randomly assigned to either Meditation and Asanas Practices (n=15) or control (n=15) group. The training regimen lasted for eight weeks. Prior to and after eight weeks of Meditation and Asanas Practices the subjects were tested on selected criterion variables using standard tests and procedures. Analysis of covariance was used to determine the significant difference existing between pretest and posttest on selected criterion variables. The analysis of data revealed that eight weeks of Meditation and Asanas Practices had significant impact on selected psychomotor profiles such as auditory reaction time and visual reaction time of Handball players.

Keywords: Meditation and Asanas Practices, Psychomotor, Visual Reaction Time and Auditory Reaction Time

1. Introduction

In every society, there is now an increasing concern about the maintenance of physical and mental health of the youth as well as of adults. Apart from physical exercise emotion training and harnessing of the will power growth of the right side of the brain (institutional) are necessary. This is where the 'yoga' help's, yoga far from being mere physical or breathing exercise or demonstration of some mystical or other supernatural power is a science of the future, with a holistic vision relevant to the progressive society.

The improvement of simple reaction ability is mostly aimed at reducing the reaction time. A lot of work and time is needed to reduce the reaction time by few hundredths of a second. For the beginners, games like Handball, volleyball, handball, etc. are very good for improving their reaction ability. This is the most common method used for improving the reaction ability. The sportsman reacts as fast as possible on a signal. This is repeated many times with complete rest between sets, or between series of repetitions. In this method, the movement time and reaction time are improved separately. This method usually gives good results.

Though Yogic exercises develop most of the components of fitness, it is expected that it will have an effect on the psychomotor parameters. Some modern texts seem to indicate that yogic exercises will strength all organs and all physiological functions of the body. Research work on the development and maintenance of physical fitness, psychomotor abilities and physiological functions is an important area which requires a lot of investigation. By considering the above literature, in this study, an attempt has been made to find out the effect of Meditation and Asanas Practices on selected psychomotor profiles of Handball players.

2. Methodology

Subjects and Variables

For the purpose of this study, thirty handball players in the age group of 18 to 22 years were recruited, with their consent. The selected subjects were randomly assigned to both the Meditation and Asanas Practices and control groups of 15 each. The selected criterion variables such as auditory reaction time and visual reaction time were assessed by Chronoscope with reaction timer and ruler drop test respectively before and after the Meditation and Asanas Practices.

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Training Protocol

The experimental group underwent the Meditation and Asanas Practices five days a week for for eight weeks. The yogic exercises included in this training programme was Suryanamaskar, Vrksasana, Trikonasana, Padmasana, Vakrasana, Bhujangasana, Salabhasana, Paschimottasana, Matiyasana, Halasana. The training programme was conducted during the morning sessions between 5.30 -6.30 am. The subjects performed each asanas four to six times and the duration of each repetition is one to three minutes.

Experimental Design and Statistical Procedure

The experimental design used for the present investigation was random group design involving thirty subjects. Analysis of covariance (ANCOVA) was used as a statistical technique to determine the significant difference, if any, existing between pretest and posttest data on selected dependent variables. The level of significance was accepted at 0.05 level.

3. Results and Discussions

The Analysis of Covariance on selected psychomotor profiles before and after eight weeks of Meditation and Asanas Practices is presented in table 1

Table 1: Analysis of Covariance on Auditory Reaction Time of Experimental and Control Groups

Test		Control Group	Experimental Group	SOV	Sum of squares	df	Mean Squares	'F' Ratio
Pre-test	M	0.23	0.21	Between	37.58	1	37.58	1.85
	SD	0.05	0.05	Within	569.84	28	20.35	
Post-test	M	0.22	0.19	Between	142.73	1	142.73	8.48*
	SD	0.05	0.04	Within	471.36	28	16.83	
Adjusted Post Test	M	0.23	0.19	Between	29.52	1	29.52	24.40*
				Within	32.64	27	1.21	

* Significant at .05 level of confidence.

(Table value required for significance at 0.05 level of confidence with df at 1 and 28 is 4.20 and df of 1 and 27 is 4.21)

The adjusted post test mean value of auditory reaction time of control and experimental groups are 0.23 and 0.19 respectively. The obtained 'F' ratio value of 24.40 for adjusted post test means of control and experimental groups are greater than the required table value of 4.21 for

significance at 0.05 level of confidence. The result of the study reveals that there was a significant difference exists between control and experimental group on auditory reaction time. Hence it is concluded that auditory reaction time of the handball players can be improved by undergoing eight weeks of Meditation and Asanas Practices.

Table 2: Analysis of Covariance on Visual Reaction Time of Experimental and Control Groups

Test		Control Group	Experimental Group	SOV	Sum of Squares	df	Mean Squares	'F' Ratio
Pre-test	M	0.18	0.17	Between	0.36	1	0.36	0.07
	SD	0.02	0.03	Within	147.07	28	5.25	
Post-test	M	0.17	0.15	Between	43.93	1	43.93	4.87*
	SD	0.01	0.02	Within	252.14	28	9.01	
Adjusted Post Test	M	0.18	0.15	Between	28.25	1	28.25	6.74*
				Within	113.26	27	4.19	

* Significant at .05 level of confidence.

(Table value required for significance at 0.05 level of confidence with df at 1 and 28 is 4.20 and df of 1 and 27 is 4.21)

The adjusted post test mean value of visual reaction time of control and experimental groups are 0.18 and 0.15 respectively. The obtained 'F' ratio value of 6.74 for adjusted post test means of control and experimental groups are greater than the required table value of 4.21 for significance at 0.05 level of confidence with df of 1 and 27. The result of the study reveals that there was a significant difference exists between control and experimental group on visual reaction time. Hence it is concluded that visual reaction time of the Handball players can be improved by undergoing eight weeks of Meditation and Asanas Practices.

4. Discussion

Based on statistical analysis of data it was concluded that eight weeks of Meditation and Asanas Practices caused significant improvement in auditory reaction time and visual reaction time of Handball players. The result are in agreement with the result of the previous research findings. Harinath and others (2004) determined the effect of hatha yoga and omkar

meditation on cardiorespiratory performance, psychologic profile, and melatonin secretion. Thirty healthy men in the age group of 25-35 years volunteered for the study. These observations suggest that Meditation and Asanas Practices can be used as psychophysiologic stimuli to increase endogenous secretion of melatonin, which, in turn, might be responsible for improved sense of well-being.

Meditation and Asanas Practices are supposed to improve the functions of all systems of the human organism, especially of the central nervous system. The investigation, undertaken by Sahu and Gharote (1985) to study the over all effects of yogic training revealed significant improvement (P< .01) in the perception of the third dimension in 20 healthy experimental subjects as compared to 20 control subjects. The rationale behind the improvement in the above parameter has been broadly discussed from the psycho-psychological point of view.

5. Conclusions

The result of this study demonstrated that, Meditation and Asanas Practices have significant impact on auditory reaction time and visual reaction time of women handball players.

Hence it is suggested that, it is more essential to know that the optimum level of psychomotor skills differ widely from game to game. The circumstances may demand either increase or decrease of psychomotor skills. Depends upon the requirement, the physical educationists and coaches should use most suitable yogasanas to achieve the goal.

6. References

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