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Effect of specific training programme on selected physiological variables of physical education institutions hockey players

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Abstract
A sport is an organized, competitive, and skillful physical activity requiring commitment and fair play. It is governed by a set of rules or customs. In a sport the key factors are the physical capabilities and skills of the competitor when determining the outcome (winning or losing). The physical activity involves the movement of people, animals and/or a variety of objects such as balls and machines. In contrast, games such as card games and board games, though these could be called mind sports, require only mental skills. Non-competitive activities such as jogging and rock-climbing are usually classified as recreations. The purpose of the study was to investigate that the effect of specific training programme on selected physiological variables of Physical Education Institutions Hockey Players. A total of 60 (N-60) physical education students aged between 18 and 28 years were selected from Maruthi College of Physical Education and Faculty of General & Adapted Physical Education and Yoga of Rama krishan Mission Vivekananda University, Coimbatore. The subjects were divided into groups such as experimental and control group. The experimental group was asked to take part in specific training for eight weeks. After consulting experts in the field and also going through the available literature on the subject the following Physiological variables were selected for this study. Physiological variable blood pressure (Systolic & diastolic blood pressure), pulse rate and body composition. The analysis of data revealed that the training programme showed significant changes in some selected variables in blood pressure, pulse rate and due to eight weeks of training programme for special training.

Keywords: blood pressure, pulse rate

Introduction
A sport is an organized, competitive, and skillful physical activity requiring commitment and fair play. It is governed by a set of rules or customs. In a sport the key factors are the physical capabilities and skills of the competitor when determining the outcome (winning or losing). The physical activity involves the movement of people, animals and/or a variety of objects such as balls and machines. In contrast, games such as card games and board games, though these could be called mind sports, require only mental skills. Non-competitive activities such as jogging and rock-climbing are usually classified as recreations.

Training Procedure
The programmes of different physical activities were prepared with great care. Exercises were chosen primarily to warm-up the complete body. The following selected physical activity for the study. General warming up: 15 minutes. The experimental group underwent specific training for the period of eight weeks of period in addition to their routine activities as per the curriculum. Experimental group underwent training programme for two session in a day, three days in a week for eight weeks of period. The maximum duration of training session in all the days (College time) was lasted 60 minute in each section. The entire subject of the experimental group involved in this study was carefully monitored throughout training programme.

Selection of Subject
To achieve the purpose of this study thirty Physical Education Institutions hockey players were randomly selected as subjects for this study from Maruthi College of Physical Education and Ramakrishna Mission Vivekananda University Faculty General Adapted Physical Education & Yoga, Coimbatore. The participants were randomly assigned to experimental group and control group. Experimental group underwent specific training and control group did not take any training.

Statistical technique
The pre and post-test were administered on the selected variables prior and after the training period. The collected data from the control group and experimental group prior to and after the training period on selected variables were statistically analyzed with dependent "t" test. In all the cases 0.05 level of significant was fixed to test the hypothesis.

Table 1: Computation of 'T' Ratio between the Pre and Post Test means on Systolic Blood Pressure of Control Group and Experimental

Variables	Groups	Periods	Mean	MD	SD	SE	't' ratio
Systolic Blood Pressure	Control group	Pre-Test	122.00	0.47	1.51	0.39	1.2
		Post –Test	121.53				
	Experimental group	Pre-Test	120.00	7.3	4.98	1.23	5.70*
		Post –Test	112.67				

The table I show that the obtained mean value of pre and post test scores of control group were 122.00 and 121.53 respectively. The obtained 't' ratio is 1.2. The required table value is 2.14 at 0.05 level of confidence for the degree of freedom I and 14. The obtained 't' ratio was 1.2 is lesser than the table value. It is found to be insignificant.

The table I show that the obtained mean value of pre and post test scores of experimental group were 120 and 112.67 respectively. The obtained 't' ratio is 5.70. The required table value is 2.14 at 0.05 level of confidence for the degree of freedom I and 14. The obtained 't' ratio was 5.70 is lesser than the table value. It is found to be significant.

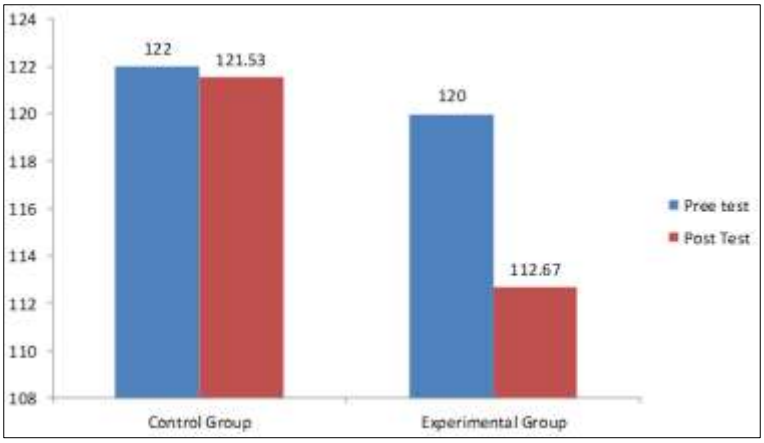

Fig 1: Bar diagram shows that the pre and post test means on systolic blood pressure of control group and experimental group

Table 2: Computation of 't' ratio between the pre and post-test means on diastolic blood pressure of control group and experimental group

Variables	Groups	Periods	Mean	MD	SD	SE	't' ratio
Diastolic Blood Pressure	Control group	Pre-Test	72.00	0.73	2.71	0.7	1.05
		Post –Test	71.27				
	Experimental group	Pre-Test	71.87	2.40	3.78	0.98	2.46*
		Post –Test	69.47				

The table I show that the obtained mean value of pre and post test scores of control group were 70.00 and 71.00 respectively. The obtained 't' ratio is 1.05. The required table value is 2.14 at 0.05 level of confidence for the degree of freedom I and 14. The obtained 't' ratio was 1.05 is lesser than the table value. It is found to be insignificant.

The table I show that the obtained mean value of pre and post test scores of experimental group were 71.87 and 69.47 respectively. The obtained 't' ratio is 2.46. The required table value is 2.14 at 0.05 level of confidence for the degree of freedom I and 14. The obtained 't' ratio was 2.46 is lesser than the table value. It is found to be significant.

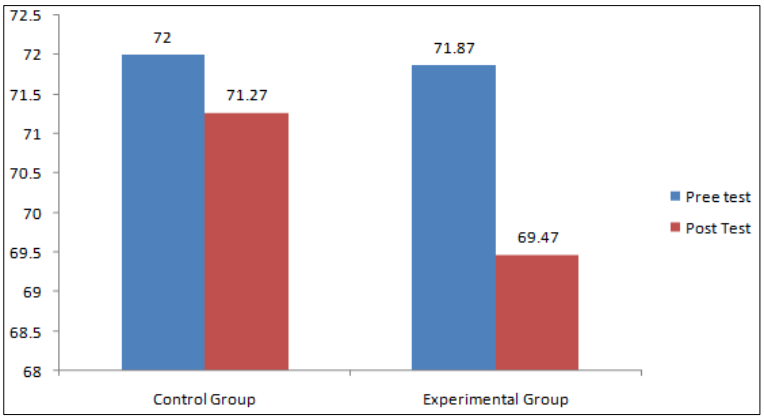

Fig 2: Computation of 't' ratio between the pre and post-test means on diastolic blood pressure of control group and experimental group

Table 3: Computation of 't' ratio between the pre and Post-test means on resting pulse rate of control group and experimental group

Variables	Group	Periods	Mean	MD	SD	SE	't' ratio
Resting pulse rate	Control group	Pre-Test	77.73	0.27	0.59	0.15	1.74
		Post -Test	77.47				
	Experimental group	Pre-Test	75.20	2.33	2.23	0.56	4.06*
		Post -Test	72.87				

The table I show that the obtained mean value of pre and post test scores of control group were 77.73 and 77.47 respectively. The obtained 't' ratio is 1.74. The required table value is 2.14 at 0.05 level of confidence for the degree of freedom I and 14. The obtained 't' ratio was 1.74 is lesser than the table value. It is found to be insignificant.

The table I show that the obtained mean value of pre and post test scores of experimental group were 75.20 and 72.87 respectively. The obtained 't' ratio is 4.06. The required table value is 2.14 at 0.05 level of confidence for the degree of freedom I and 14. The obtained 't' ratio was 4.06 is lesser than the table value. It is found to be significant.

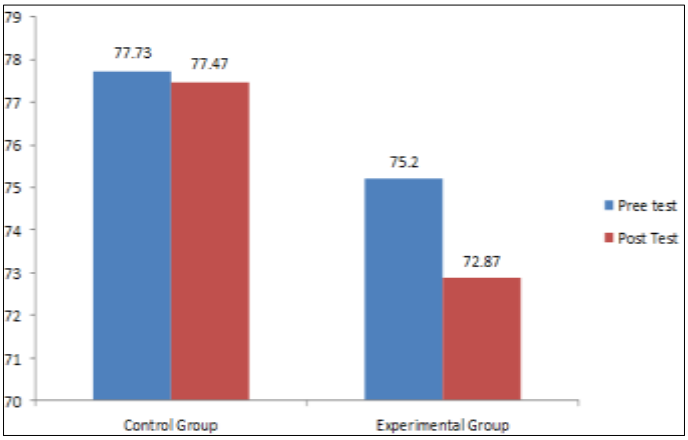

Fig 3: Computation of 't' ratio between the pre and Post-test means on resting pulse rate of control group and experimental group

Table4: Computation of 't' ratio between the pre and post-test means on body fat of control group and experimental group

Variables	groups	Periods	Mean	MD	SD	SE	't' ratio
Body Fat	Control group	Pre-Test	38.53	0.67	0.44	0.77	0.86
		Post-Test	37.87				
	Experimental group	Pre-Test	38.13	2.73	0.30	0.85	3.20*
		Post-Test	35.40				

The table I show that the obtained mean value of pre and post test scores of control group were 38.53 and 37.87 respectively. The obtained 't' ratio is 0.86. The required table value is 2.14 at 0.05 level of confidence for the degree of freedom I and 14. The obtained 't' ratio was 0.86 is lesser than the table value. It is found to be insignificant.

The table I show that the obtained mean value of pre and post test scores of experimental group were 38.13 and 35.40 respectively. The obtained 't' ratio is 3.20. The required table value is 2.14 at 0.05 level of confidence for the degree of freedom I and 14. The obtained 't' ratio was 3.20 is lesser than the table value. It is found to be significant.

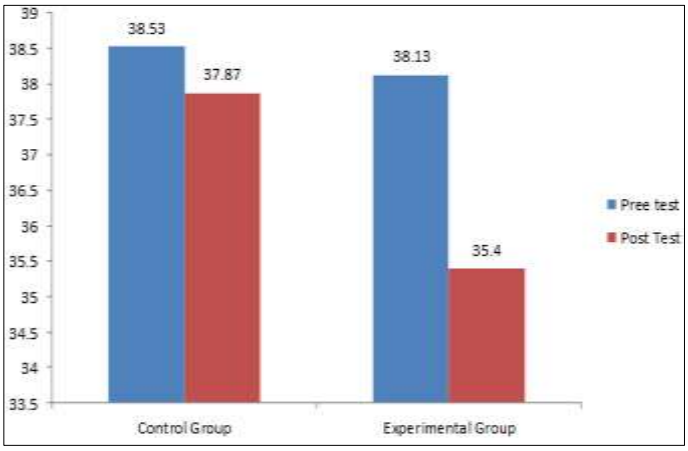

Fig 4: Computation of 't' ratio between the pre and post-test means on body fat of control group and experimental group.

The results of the study showed that the end of the eight weeks of specific training program was significant improvement on the selected physiological variables were systolic blood pressure, diastolic blood pressure, resting pulse rate and body fat. In hockey, the players need a well-developed physiological proficiency to perform at physical education institutions level tournaments. To this a scientific basis of training method is an essential role on the entire training session of an individual. In the present study the training intervention used by the investigator is significantly improved the physiological variables and the results are supported by the studies conducted by Quinney *et al* (2008), Lemaitre *et al*, (2007), Tomasz *et al*, (2004), Spencer *et al*, (2004), Main gourd *et al*, (1990) and Mokha *et al*, (1990).

Conclusion

It was concluded that eight weeks of specific training programme shows significant improvement on systolic and diastolic of blood pressure and resting pulse for the Physical Education Institutions Hockey Players. Similar study can be conducted to the female players. The same study may be conducted on different age groups. The study may also be conducted for athletes. A similar study may be conducted for private and public employees.

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