ISSN: 2278 – 716X
Vol. 5, Issue 1 and 2, 2016

EFFECTS ON STRENUOUS SPORTS ACTIVITY OF BLOOD GLUCOSE MEN HOCKEY PLAYERS OF TAMIL NADU

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ABSTRACT
To achieve the purpose of the present study twenty four subjects were selected from Sports Authority of India, Chennai. Their age ranged from 16 to 19 years. The subjects were equally divided in to two groups, namely group-I strenuous type of sports activity training group (n-12) (SSATG) group-II acted as control group(n-12). Each group twelve adolescence boys who were given strenuous type sports activity training for 12 weeks 3 days a week and from 6.30 am to 8.30 am. The experimental training group was tested on blood glucose. The selected criterion blood glucose variable was tested with Boeinger Mannheim kit method blood sample help of lab chemist. Pre and post test data were collected and treated with ANCOVA. The level of significance was fixed at 0.05. The study of results showed that the experimental group had significantly reduction of selected blood glucose level due to effects of strenuous type sports activity. The control group did not show high changes on selected criterion variables.
Keywords: Strenuous, Activity, Blood Glucose and Hockey

INTRODUCTION
Sports' training is the process of sports protection based on scientific and pedagogical principles for higher performance. Training means a systematic scientific programme of conditioning exercises and physical activities designed to improve the physical fitness and skill of the players or athletes participated. Training means preparing for something for an event or reason of athletic competition. A nursing carrier or operative performance of military combat, much growth and change occur during training **(**Hardyal Singh, 1997). The long-term positive effects of physical activity on the incidence of coronary artery disease, hypertension, dyslipo proteinemia, obesity, and life expectancy are well known.(Rigla et al.,2000) This has led to many official recommendations stressing the importance of exercise to promote optimal health. For example, the American College of Sports Medicine (ACSM), the Center for Disease Control (CDC), and the Surgeon General have issued guidelines for sensible exercise programs. In human body, many trace elements take part in numerous physiological and biochemical events. The changes in the element levels changes depending on the type, length and intensity of the exercise, as well as the nutritional behavior. Participation in sports and exercise presents a special challenge. That's because physical activity can affect blood sugar in multiple ways. With increased activity, muscle cells become much more sensitive to insulin. This enhanced insulin sensitivity may continue for many hours after the exercise is over, depending on the extent of the activity. The more intense and prolonged the activity, the longer and greater the enhancement in insulin sensitivity. With enhanced insulin sensitivity, insulin exerts a greater force than usual. (Gary Scheiner 2010).

METHODOLOGY
To achieve the purpose of the present study twenty four subjects were selected from Sports Authority of India, Chennai. Their age ranged from 16 to 19 years. The subjects were equally divided in two groups, namely group-I strenuous type sports activity training group (n-12) (SSATG) group-II acted as control group(n-12). Each group twelve adolescence boys who were given strenuous type sports activity training for 12 weeks 3 days a week and from 6.30 am to 8.30 am. The experimental training group was tested on blood glucose. The selected criterion blood glucose variable was tested with Boeinger Mannheim kit method of blood sample help of lab chemist. Pre and post test data were collected and treated with ANCOVA. The level of significance was fixed at 0.05.

TRAINING PROGRAM

Week	1 & 2	3 & 4	5 & 6	7 & 8	9 & 10	11 & 12
Strenuous Sports Activity Group	70%	75%	80%	85%	90%	95%
Set	7	6	5	4	3	2

Load Intensity = Max HR- 220

ISSN: 2278 – 716X
Vol. 5, Issue 1 and 2, 2016

RESULTS

TABLE-I
ANALYSIS OF COVARIANCE ON BLOOD GLUCOSE OF STRENUOUS SPORTS ACTIVITY TRAINING AND CONTROL GROUP OF MEN HOCKEY PLAYERS

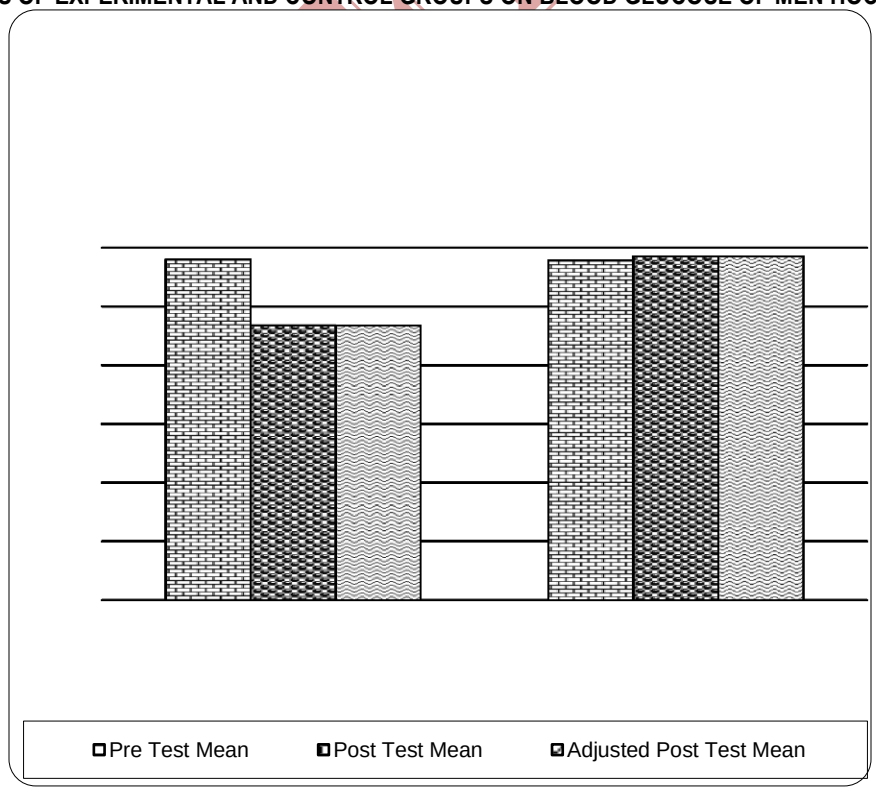
Test	Strenuous Sports Activity Group	Control Group	Source of Variances	Sum of Squares	df	Mean Squares	'F' Ratio
Pre Test Mean	116.0	115.67	Between	0.667	1	0.667	0.003
SD	18.92	8.26	Within	4686.667	22	213.03	
Post Test Mean	93.58	117.08	Between	3313.50	1	3313.50	82.11*
SD	5.85	6.81	Within	887.833	22	40.356	
Adjusted Post Test Mean	93.55	117.1	Between	3332.718	1	3332.718	102.50*
			Within	682.772	21	32.513	

* *Significant*

(The table values required for significance at 0.05 level of significance with df 1 and 22 and 1 and 21 were 4.30 and 4.29 respectively).

It is clear from the table-I that the pre test ($F = 0.003$, $p > 0.05$) showed no significant difference in blood glucose. However, post ($F = 82.11$, $p < 0.05$) and adjusted post test ($F = 102.5$, $p < 0.05$) value showed significant difference. The covariate is significant, indicating that blood glucose before training significant changes and after 12 weeks of strenuous type specific activities had significant reduction of blood glucose due to training effects as statistically proved. Since, adjusted post test mean also significant.

FIGURE-1
MEAN VALUES OF EXPERIMENTAL AND CONTROL GROUPS ON BLOOD GLUCOSE OF MEN HOCKEY PLAYERS



ISSN: 2278 – 716X
Vol. 5, Issue 1 and 2, 2016

DISCUSSION ON FINDING

Based on results of the study shows that the experimental group significant reduction on blood glucose level of men hockey players due to effects of strenuous sports activity training. The results study is in agreement with that training significant reduction of blood glucose (Katzmarzyk 2002) and acute blood biochemical alterations in response to marathon running (Maron et al., 1975). Effects of step aerobics and aerobic dancing on serum lipids and lipoproteins (Kin Isler et al., 2001). Human Biochemical changes as a result of prolonged strenuous exercise (Warburton et al., 2002). It is not unusual to experience a blood sugar rise at the onset of high-intensity exercise. This is caused by a surge of stress hormones that oppose insulin's action and cause the liver to dump extra sugar into the bloodstream. (Gary Scheiner 2010)

CONCLUSIONS

- The experimental group shows a significant reduction on blood glucose level due to strenuous sports activity of men hockey players.
- There is a significant difference between experimental and control group of blood glucose level due to strenuous sports activity of men hockey players.

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