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Comparative Study of Triglyceride and High-Density Lipoprotein Variables Between active and Inactive Males

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Abstract
The aim of this study was to find out the difference in triglyceride and high-density lipoprotein variables between active and inactive males. Forty male subjects (20 active + 20 inactive) were selected from Punjabi University Patiala for this study. The age of the subjects was ranged between 45-70 years. Selected variables: triglyceride and high-density lipoprotein were measured by 'Erba Chem- 5 V2 Plus Analyzer' machine. Descriptive statistics and independent t-test was employed by 'SPSS Version-23'. The results showed that there was a significant difference in triglyceride and insignificant difference in high-density lipoprotein variable between active and inactive males.

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Keywords: Biochemistry, Triglyceride, High-density lipoprotein

Introduction

High blood cholesterol is a major risk factor for coronary heart disease, it is cause of heart attacks, and decreases blood fat levels and reduce the cardiovascular risk (Philadelphia, 2014).

High levels of Low-Density Lipoprotein (LDL) lead to a build-up of cholesterol in the arteries, whereas High-Density Lipoprotein (HDL) carries cholesterol to the liver for exit from the body. The high cholesterol levels are a result of modifiable and non-modifiable risk factors. There are two major risk factors, diet and activity, are highly modifiable, meaning that something can be done to change these risk factors and decrease the likelihood of having high cholesterol (Bethesda, 2014).

Exercise is a common rehabilitation treatment used to improve psychological and physical wellbeing. Physically active people at all ages exhibit fewer health problems than the very sedentary. Physical Fitness is considered as a pre-requisite to healthful and recreational living and is not an end unto itself. An average healthy adult inhales and exhales nearly 7 to 8 litres of air in a minute. Once you fill your lungs, the oxygen in the air is filtered through small branches of tubes called bronchioles until it reaches alveoli, the microscopic sacs, where it finally diffuses into the blood. The heart has four chambers that pump blood and some very active coronary arteries. Due to all these actions which the heart has to perform, a large amount of energy is required and hence, the heart needs a fresh supply of oxygen and the lungs provide it more while exercising (Sharon and Jeniffer, 1989). Adequate exercise will develop an efficient and effective cardio vascular system, a certain degree of muscular strength and endurance and flexibility. These components of health-related physical fitness, with controlled body weight, nutritious food and reduced level of stress, helps to prevent disabilities and diseases and promotes an effective functional life style (Sharon and Jeniffer, 1989).

Aim of Study

The aim of this study was to find out the difference in triglyceride and high-density lipoprotein variables between active and inactive males.

Material and Methods

Forty males (20 active + 20 inactive) were selected for this study by purposive sampling technique from Punjabi University, Patiala. Active males were those who were participating in physical activity and inactive males were those who were not participating in physical activity. The age of the subjects was ranged between 45-70 years.

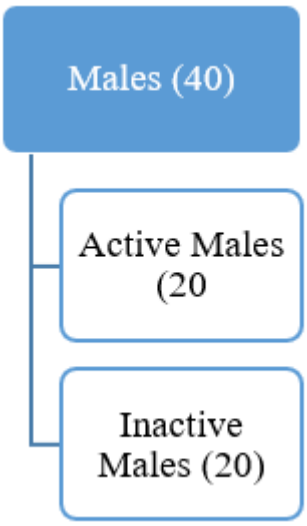

Fig 1: Description of Sampling Plan

Criterion Measurs

The following were the criterion measures for the study:

Table 1: Criterion Measure

Variable	Test analyzer	Unit of measurements (milligrams per decalitre)
Triglyceride	Erba Chem- 5 V_2 plus	mg/dl
HDL	Erba Chem- 5 V_2 plus	mg/dl

Collection of Data

All subjects had been given an informed consent letter to sign to be a subject for the present study with their own will. After that the researcher took the blood sample of the subjects. These subjects were exposed to the selected biochemistry variables.

The necessary data was collected through the administration of standardized instruments for the measurement of chosen variables.

Statistical Technique

Descriptive statistics i.e., mean and standard deviation were calculated. As per objective of the study, independent 't-test' was applied to find out the difference between various groups. All tests were employed with the help of SPSS-software version 23. Level of significance was set at 0.05.

Results

Table 2: Descriptive Statistics And T-Value for Triglyceride Variable

Group Name	Mean	SD	t-value	Sig.
Active Male	106.55	18.38	3.620	.001*
Inactive Male	252	178.77		

*Significant at 0.05 level, Tabulated value at DF 38 = 1.684

Table-2 shows the Mean and SD values with regard to active male group is 106.55 ± 18.38 whereas in the case of inactive male group is 252 ± 178.77 respectively. The calculated t-value (3.620) which is more than the tabulated t-value (1.684) at .05 level. So, it demonstrates that there is a significant difference between active and inactive male group for their triglyceride variable.

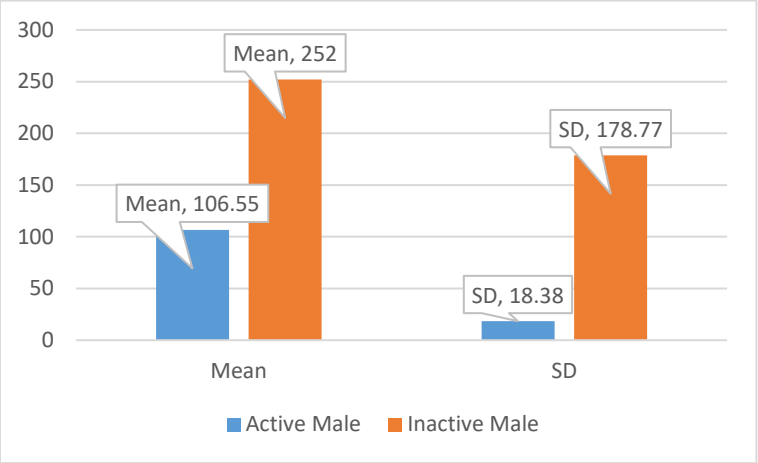

Fig 2: Graphical Represntation Of Descriptive Statistics For Triglyceride Variable

Table 3: Descriptive Statistics And T-Value for Muscular High-Density Lipoprotein Variable

Group Name	Mean	SD	t-value	Sig.
Active Male	41.20	6.56	.635	.529
Inactive Male	39.65	8.72		

*Significant at 0.05 level, Tabulated value at DF 38 = 1.684

Table-3 shows the Mean and SD values with regard to active male group is 41.20 ± 6.56 whereas in the case of inactive male group is 39.65 ± 8.72 respectively. The calculated t-value (.635) which is less than the tabulated t-value (1.684) at .05 level. So, it demonstrates that there is an insignificant difference between active and inactive male group for their high-density lipoprotein variable.

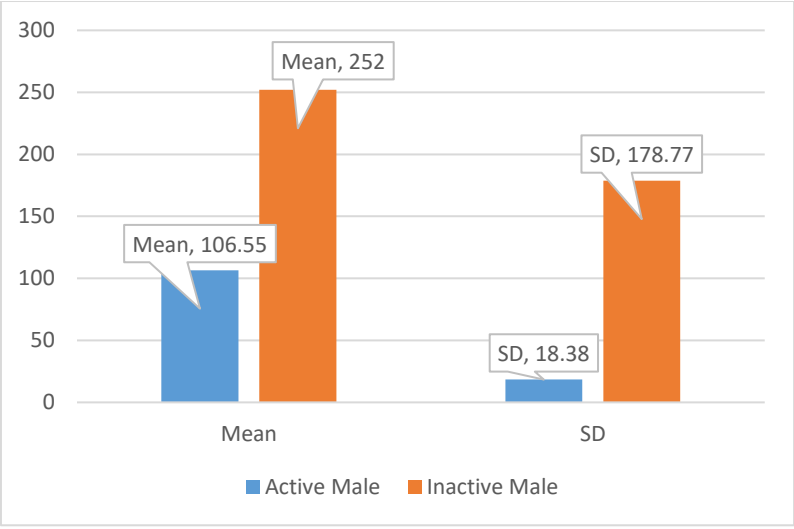

Fig 3: Graphical Represntation Of Descriptive Statistics for High Density Lipoprotein Variable

Discussion of Findings

The purpose of this study was to compare selected biochemistry variables between active and inactive males. The following results were drawn from this study:

The results showed that there was a significant difference in triglyceride variable between active and inactive males. Inactive males had higher level of total triglyceride. The results of the present study are supported by the study conducted by Farooque *et al*. (2014) who found significant difference in triglyceride variable between distance runners as compared to football players and basketball players.

The results showed that there was an insignificant difference in HDL variable between active and inactive males. These results of the study confirmed the findings of Monique *et al.* (2014) who also reported that after adjustment for important diabetes risk factors and dietary factors, the incidence of type-II diabetes was higher in those with high intake of total protein women was observed. Compared with the overall analyses, associations were stronger in women, more specifically obese women with a BMI animal protein and non-significant in European men.

Conclusion

The present study concluded that government and private male physical education teachers of Jammu differ in job satisfaction and do not differ in quality of life variable**.**

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