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ASSESSMENT OF SELECTED BODY COMPOSITION VARIABLES AMONG THROWERS AND JUMPERS OF PUNJABI UNIVERSITY PATIALA

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The purpose of present study was to compare the body fat, protein, salt, to various department of Punjabi university Patiala. For this study, total 20 male's subjects (10 thrower ,10 jumpers) belong to 18 to 25 years of age were taken. The study was conducted on males of Punjabi university Patiala. All the samples were taken by applying purposive sample technique. The level of significance was set at 0.05. The body composition variables chosen was body fat, protein, salt. Comparative statistics were used to analyses the results, which conclusively showed significance difference between thrower and jumpers. The t -value of body fat is (2.4417), the t value of protein is (1.9664), the t value of salt (1.1177) at 0.05 level and degree of freedom is set at 18. So, it is demonstrated that there is a significant difference between the thrower and jumper players for their body fat.

Keywords: Protein, Salt, Body fat, Body Composition, Thrower, Jumper

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INTRODUCTION:

Physical inactivity has a major donor to mortality. It has been reported that around 3.2 million deaths per year are attributable to physical inactivity (**World Health Organization, 2020**). Many non-communicable chronic health conditions prevailing in both developed and developing countries are linked with physical inactivity. Five leading risk factors for death are smoking, high blood glucose, high blood pressure, physical inactivity and obesity. A glance at these risk factors reveals that high blood pressure and glucose levels as well as obesity are connected with physical inactivity **(Taylor, 2014).** Physical inactivity increases the risk of many challenging health conditions, which include the non-communicable disease which is prevailing throughout worldwide is non communicable diseases like coronary heart disease, type 2 diabetes mellitus, breast and colon cancers, and shortens life expectancy. The main cause of these diseases is one and only that much of the world's population is sedentary, this shows a major public health problem. The impact of physical inactivity on these major Non communicable diseases by estimating how much disease could be avoided if those inactive people were to become active and to estimate gain in life expectancy, at the population level. if it is seen Globally, It is estimated that persons those who are sedentary is responsible for 6% of the burden of disease from CHD, 7% of type 2 diabetes, 10% of breast cancer and 10% of colon cancer. Inactivity is responsible for 9% of premature mortality as 57 million deaths that occurred worldwide in 2008. If inactivity were not eradicated, but cut short instead by 10% or 25%, >533,000 and >1.3 million deaths, respectively, may be prevented each year. By eliminating physical inactivity, life probability of the world's population is estimated to increase by 0.68 (0.41 to 0.95) years. Physical inactivity has a major health impact globally. Eradication of physical inactivity would remove between 6% and 10% of the major NCDs of CHD, type 2 diabetes, and breast and colon cancers, and increase life expectancy **(Lee et al., 2012).** Protein is a class of nitrogen-containing compounds formed by amino acids**. (Wilmore & Costil, 2004**). Protein unlike carbohydrates and fats contains nitrogenous in summation to carbon, oxygen and hydrogen. Each and every cell requisite protein. factually, Protein are found throughout the entire body with muscle tissue being the major Location Protein don't liberate energy but instead they are considered to be the constructing blocks of tissue. This is the provide not only the basic material that is essential for muscular functioning. While there are over 20 different known amino acids in protein 8 of these cannot be generated within the body itself and therefore must be obtained directly from the food, we intake These are termed as essential amino acid, the left over is called nonessential can be manufactured within the body from the diet we intake. The 8 essential amino acid are isoleucine, leucine, lysine, methionine phenylalanyl, threonine, tryptophan and valine. Not more than 1 gram of protein is needed daily/day. factually the United States food and nutrition board has recommended a daily protein allowance of 0.9 gms/kg body weight for adolescent and adult men and women. (Shaver, 1981) With aging there is a general tendency to accumulated surge in body fat. This is typically seen in both relative and absolute terms. There are numerous reasons normally given for this increase in body fat. With aging there is a decrease in one's ability to mobilize stored fatty acids from adipose tissue to generate energy fuel. This of course results in less fatty acid being burned up. Also, at cusp of aging people generally surge their food intake but they also adopt sedentary lifestyle. This obviously means that they are taking more calories than they burned up. The amount of fat surged or lost with increase it inversely proportional to ones eating and exercise habits. therefore, part in decrease in lean body weight with age is due to the decrease in muscle size along with the decline in calcium and phosphorus content of the bone **(Shaver, 1981).** According to the American Council on Exercise, women need at least 10 to 13 percent of their body composition to come from needed fat to be in good health, while men need at least 2 to 5 percent. (Percentage body fat, n.d). Muscle mass drops at about 1% to 2% per year after the age of 50 years. **(Vonet al., 2010**) The age-related loss of mass of skeletal muscle prompts an increased risk of falls and fractures, physical disability, mobility disorders, and mortality. (Roland et al. 2008). The advantageous effect of physical activity in avoiding adversarial health results is widely certified. There is increasing evidence that older adults who involve in physical activity are more likely to experience better physical function and have a lengthier active life expectancy than sedentary older adults. Generally, the results highlight how studying the mechanism

Of load-induced skeletal muscle mass is leading the development of pharmaceutical interventions to promote muscle growth in those unwilling or unable to perform resistance exercise (Marcotte et al., 2015). Exercise prompts similar signaling and genetic factor expression profiles in skeletal muscle of untrained or recreationally active individuals, what is currently unclear is how the specificity of the molecular response is modified by prior training history skeletal muscle and evidence for the interference effect with contemporaneous training within the framework of the specificity of training adaptation (Coffey & Hawley,2017). Authorities generally conduct acknowledge that the normal body weight between ages of 25 and 30 years should not be exceeded throughout life. A weight in excess of 15 percent of that is considered as normal would be considered tending toward obesity whereas 25 percent above normal is grossly obese. Body mass index (BMI) is now the most widely used clinical standard to estimate underweight, normal weight, overweight and obesity. To determine a person's BMI, body weight in kilograms is divided by the square of body height in meters'kg/m 2 **(Wilmore & Costil,2004).**

TABLE 1.1 Classification of overweight and obesity by BMI

Classification	BMI(Kg/m 2)
Underweight	18.5
Normal	18.5 – 24.9
Overweight	25.0 – 29.9
Obesity	30.0- 34.9 I CLASS 35.0 – 39.9 II CLASS
Extreme obesity	≥ 40 IIICLASS

Source: **(Wilmore & Costil, 2004)**

Even though BMI cannot be technically classified as a body composition measurement method it has revived widespread use with adults for clinical and epidemiological assessment. the BMI requires only of height and weight for its measurement it is well-defined as body weight divided by the square of the height expressed in kg/m2. The development of BMI norms from large data bases permits the classifications of individuals into categories of underweight, normal weight and overweight and obese**. (Koley, 2006).**

MATERIALS AND METHODS

In this chapter, the procedure adopted for the selection of subjects, selection of variables, criterion measure, instrument used,

Design of the study, collection of data, sample collection, method and procedure, statistical procedure and for analysis of data are presented. The chapter is organized in sections covering

SELECTION OF THE SUBJECTS

The study was conducted on Throwers and Jumpers male adults of Patiala; 18-25 years of age group was taken.

A total Twenty (N=20) Throwers and jumpers' male adults were together selected via convenient sampling.

SELECTION OF VARIABLES

In consultation with the experts in the field, minutely gleaning through the literature available and considering the feasibility criteria in mind, especially the availability of instrument. The following components of body composition, Weight and Obesity variables were selected for the present study.

01. a) Protein

02. b) Salt

03. c) Body fat

For the purpose of present study, the measurement unit of the selected variable given below;

VARIABLE	TOOLS	UNIT OF MEASUREMENT
Protein	GS6.5B Body building weight (version 1.0)	Kg
Salt	GS6.5B Body building weight (version 1.0)	Kg
Body fat	GS6.5B Body building weight (version 1.0)	Kg

Nutrition assessment –

- **Protein**

Criterion Measure:

GS6.5B Body Building Weight Test System (Version 1.0) machine test is applied to measure the body weight

Purpose: To determine total protein, muscle weight, BMI, PBF ABIO SALT AND PROTEIN of the body of the subject.

Equipment: GS6.5B Body Building Weight Test System (Version 1.0)

Procedure: The instructions given by the tester to the subject in advance and after that subject was asked to remove his shoes and socks and advised

To stand on the machine with bare foot on particular sites and further advised to hold the electrodes in both hands with arms straight and asked to stand on that site for 15 seconds. All the measurements were taken with the help of lab technician.

Scoring: After the automatic calculation, machine printed out a paper and score was written on that slip

Range: The normal range for total protein is between 6 and 8.3 grams per deciliter(g/dL).

Scoring: After the automatic calculation, machine printed out a paper and score was

Written on that slip.

Range: 4% of our body mass in combination with other nutrients.

Statistically analysis:

After the collection of relevant data, it was processed and analysed with descriptive statistics.

To compare the body composition (body fat, protein, and salt) of subjects, mean, standard deviation and t-test was use with the help of statistical package of SPSS.

Results of the study are summed up in following tables and figures discussed as required.

TABLE;1 Mean and standard deviation of male's body fat of throwers and jumper

	BODY FAT	FAT BODY
MEAN	18.3600	14.8400
SD	4.0604	2.0727
SEM	1.2840	0.6554
N	10	10

t-value= 2.4417

Df= 18 Tabulated value- 1.734

P-value= 0.0252

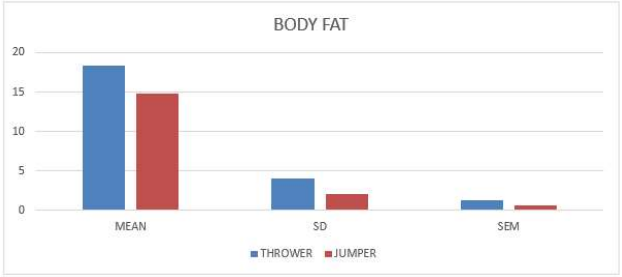


Figure: **1** Mean and standard deviation of male's body fat of throwers and jumper

Table and figure 1 statically show that the mean and standard deviation with regard to male's thrower is 18.3600±4.0604 Where as in case of jumper is 14.8400±2.0727 respectively. The t-value is 2.4417. The p-value is .0.0252.The degree of freedom is 18 and tabulated value is 1.734.The result is significant difference between thrower's and jumper's body fat.

TABLE;2 Mean and standard deviation of male's Protein level of throwers and jumper

	THROWER BODY FAT	JUMPER FAT BODY
MEAN	15.380	13.750
SD	2.229	1.379
SEM	0.705	0.436
N	10	10

t-value= 1.9664

Df= 18 Tabulated value- 1.734

Standard error=0.829

P= 0.0649

Figure:2 Mean and standard deviation of male's protein level of throwers and jumper

Table and figure 2 statically show that the mean and standard deviation with regard to male's thrower is 15.380±2.229 Where as in case of jumper is 13.750±1.379 respectively. The t-value is 1.9664. The p-value is .0.0649.The degree of freedom is 18 and tabulated value is 1.734.The result is significant difference between thrower's and jumper's level of protein.

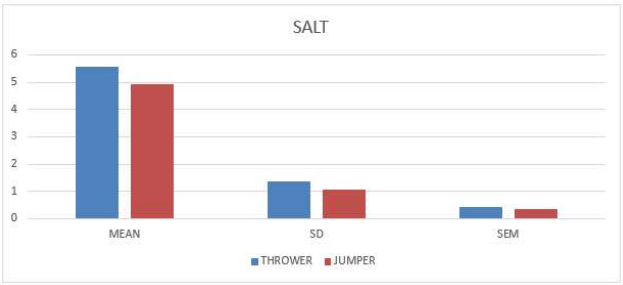
TABLE;3 Mean and standard deviation of male's salt of throwers and jumper

	BODY FAT	FAT BODY
MEAN	5.5490	4.9460
SD	1.3444	1.0503
SEM	0.4251	0.3321
N	10	10

t-value= 1.1177

Df= 18 Tabulated value- 1.734

P-value= 0.2784



FIGURE;3 Mean and standard deviation of male's salt of throwers and jumper

Table and figure 3 statically show that the mean and standard deviation with regard to male's thrower is 5.5490±1.3444 Where as in case of jumper is 4.9460±1.0503 respectively. The t-value is 1.1177. The p-value is .0.2784. The degree of freedom is 18 and tabulated value is 1.734. The result is no significant difference between thrower's and jumper's level of salt.

Result

01. In terms of Body fat – there is a significant difference between throwers and jumper's body fat.
02. If we talk about Protein – there is a significant difference between throwers and jumper's level of protein in body.
03. In terms of Salt – there is a no significant difference between throwers and jumpers' level of salt in body.

DICUSSION AND FINDING

BODY FAT

The result of the study established that there was statistically significant difference in body fat variable between throwers and jumpers of Punjabi university Patiala. On the basis of analysis of the data, investigator found that the earlier study of **(Baumgartner,R. N.2000**)supported the present study.

PROTEIN

The result of the study established that there was statistically significant difference in protein level in body between throwers and jumpers of Punjabi university Patiala. On the basis of analysis of the data, investigator found that the earlier study of **(Baumgartner,R. N.2000)** supported the present study.

SALT

The result of the study established that there was statistically no significant difference in salt level between throwers and jumpers of Punjabi university Patiala. On the basis of analysis of the data, investigator found that the earlier study of **(Alexander,L.G.,2011)** supported the present study.

CONCLUSION:

On the basis of findings of present study, the following conclusions were drawn Within the limits and limitations of the study, it is concluded that, non-significant difference were found in salt between throwers and jumpers of Punjabi university Patiala and significant difference found in body fat and protein between throwers and jumpers of Punjabi university Patiala.

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