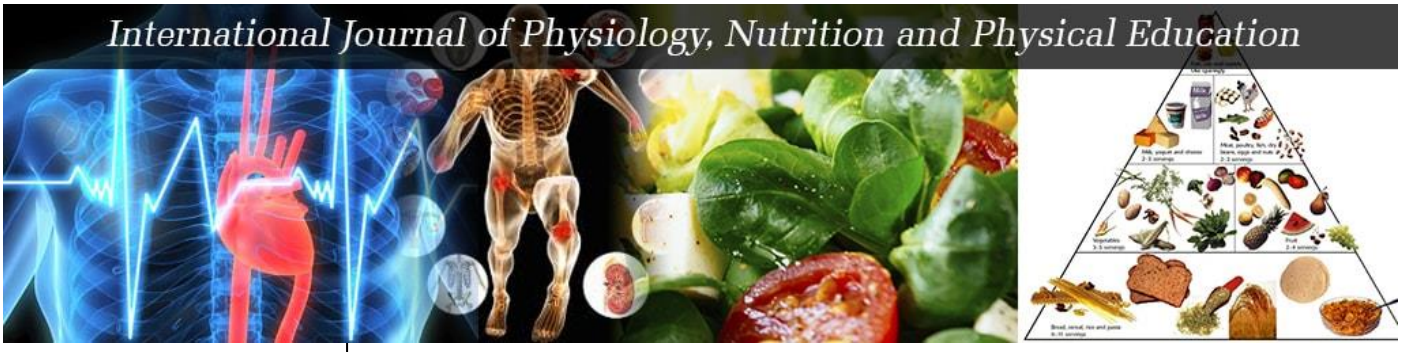

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Comparison of body fat percentage and nutritional knowledge among athletes and non-athletes

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Abstract
The present study was designed to compare the body fat percentage and nutritional knowledge among male athletes of different level and sedentary people. Total one hundred twenty (N=120) samples were selected. 30 inter-universities, 30 from inter-college, 30 international sportsmen and 30 non athletes selected to act as subjects for the present study, with the age ranging between 17-25 years. Nutritional knowledge of athletes and sedentary people were assessed by using Nutritional knowledge questionnaire based on the USDA's current My Plate tool. On the other hand body fat percentage of athletes and sedentary people was measured by HBF-212 Body composition monitor.The data obtained after scoring the questionnaires filled up by the subjects to analysis on computer through statistical package for social science (SPSS) version 16.0. The differences in the mean of each group for selected variable were tested for the significance of difference by One-way Analysis of variance (ANOVA).In all the analyses, the 5% critical level (p<0.05) was considered to indicate statistical significance. Results of the study explicated statistically that there was significant difference in body fat percentage and nutritional knowledge.

Keywords: Body fat percentage, Nutritional knowledge, Athletes and Sedentary people

Introduction
It is very much reported that what we eat, and the supplements we expend, assume an expansive part in keeping up solid substantial capacity, forestalling illness, and boosting intellectual execution, as well as fueling physical execution and recuperation (Collins *et al*. 2011) [2] Nutrition education among competitors is fundamental for boosting performance. It is perceived that physical movement, athletic performance and recuperation from practice are all enhanced with the best possible nourishment (Rodriquez *et al*. 2009) [4]. A number of types of diets exist, including vegan (no red meat, fish, poultry, dairy, and eggs), octo-lovo (consume milk, eggs, or both but no red meat, fish, or poultry), pescatarian(consume fish, milk, and eggs but no red meat and poultry), semi-vegetarian (eat fish, poultry and other meats less than once a week) fruitarian (raw vegan diets based on fruits)and raw-foodies (plant-based diet characterized by a high consumption of uncooked and unprocessed foods, i.e. fruits, vegetables, nuts and seeds). Physical activity, athletic performance, and recovery from exercise are enhanced by optimal nutrition. Many factors add to body fat including energy consumption, macronutrient composition, and physical activity. With the rise in sedentary behavior, potentially greater numbers of young and middle aged adults may be susceptible to accumulation of unhealthy amounts of adipose tissue without significant weight change (Heaney. *et al*. 2011) [5] Body weight and body structure are imperative execution factors in numerous games. Athletic performance is partially influenced by body composition characteristics of an athlete (Blanchard, K. 2000) [1].

Body fat percentage
Body fat percentage is mainly the level of fat your body holds. A specific measure of fat is basic to substantial capacities. Muscle to fat ratio includes basic muscle to fat ratio and capacity muscle versus fat.

Nutritional knowledge
Nutritional knowledge refers to knowledge of concepts and process related to nutrition and health including knowledge of diet and health, majour sources of nutrition and dietary guidelines.

Methodology

The presented study was conducted with the purpose to compare the body fat percentage and nutritional knowledge among male athletes of different levels and non athletes, with the age ranging between 17-25 years. Total one hundred twenty (N=120) samples were selected. 30 inter-university, 30 from inter-college, 30 international sportsmen and 30 sedentary people were selected to act as subjects for the present study. The following variables were selected for the present study.

1. Body fat percentage
2. Nutritional knowledge

Nutritional knowledge of athletes and sedentary people were assessed by using Nutritional knowledge questionnaire based on the USDA's current My Plate tool. On the other hand body fat percentage of athletes and sedentary people was measured by HBF-212 Body composition monitor.

Body fat percentage

Table 1: Mean and Standard deviation results with regard to Body fat percentage among male sedentary, inter collegiate, and inter university& International Players.

Group	Mean	Std. Deviation	Std. Error
Sedentary people	22.45	5.06	.925
Inter collegiate	16.82	3.00	.549
Inter university	14.56	3.20	.585
Inter national	12.30	2.30	.420
Total	16.53	5.15	.471

Table 1 shows the Mean and SD values of Body of male sedentary people, inter collegiate, inter university, international were 22.45 ± 5.06, 16.82 ± 3.00, 14.56 ± 3.20, 12.30 ± 2.30respectively. The attained "F" ratio 45.31 (.000) was found statistically significant, (P<.05) .05 level of significant.

Table 1(a): Analysis of variance (ANOVA) results with regard to Body fat percentage among male sedentary people, inter collegiate, and inter university & international players.

Anova				
Source of variable	**Sum of Squares**	**df**	**Mean Square**	**F**
Between Groups	1709.49	3	569.83	45.31
Within Groups	1458.59	116	12.57	
Total	3168.09	119		

*Significant at .05 level of confidence

It is the evidence from table 4.2(a) that the result of Analysis of Variance (ANOVA) among four group with regard to the body fat percentage were found to be statistically significant (P<0.05). Since the obtained "F" ratio 45.31 (.000) was found statistically significant.

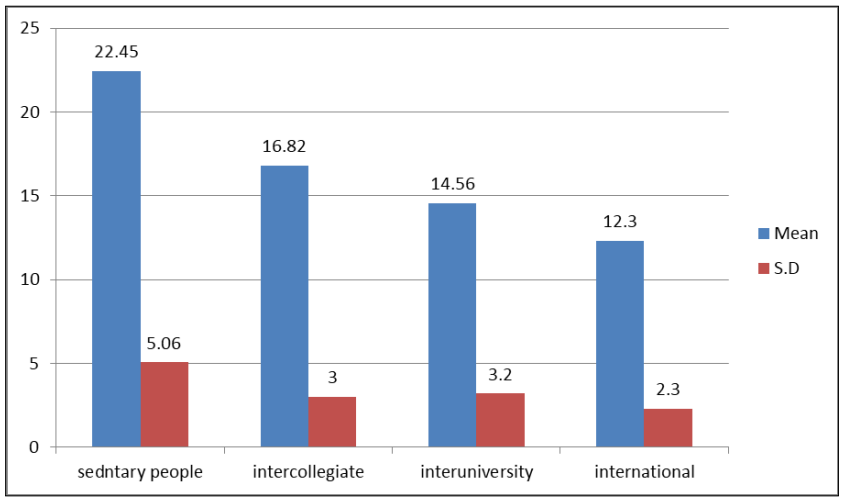

Fig 1: Graphical representation of mean scores with regard to body fat percentage among male sedentary people, Inter collegiate, Inter University, and International.

Nutritional knowledge

Table 2: Mean and Standard deviation results with regard to nutritional knowledge among male sedentary, inter collegiate, and inter university& international players.

Group	Mean	Std. Deviation	Std. Error
Sedentary people	53.83	20.82	3.80
Inter collegiate	47.90	14.15	2.58
Inter university	68.66	14.44	2.63
Inter national	88.10	9.64	1.76
Total	64.62	21.70	1.98

Table 2 shows the Mean and SD values of nutritional knowledge of male sedentary people, inter collegiate, inter university, international were 53.83 ± 20.82, 47.90 ± 14.15, 68.66 ± 14.44, 88.210 ± 9.64 respectively. The achieved "F" ratio 41.18(.000) was found statistically significant, (P<.05) .05 level of significant.

Table 2(a): Analysis of variance (ANOVA) results with regard to nutritional knowledge among male sedentary people, inter collegiate, and inter university & international players.

Anova				
VAR00001	**Sum of Squares**	**df**	**Mean Square**	**F**
Between Groups	28907.89	3	9635.96	41.18
Within Groups	27142.23	116	233.98	
Total	56050.12	119		

*Significant at .05 level of confidence

It is the evidence from table 4.3(a) that the result of Analysis of Variance (ANOVA) among four group with regard to the nutritional knowledge were found to be statistically significant (P<0.05). Since the obtained "F" ratio41.18 (.000) was found statistically significant.

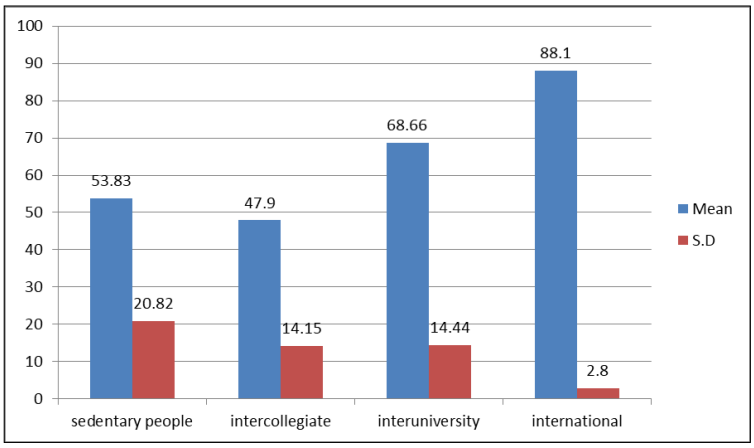

Fig 2: Graphical representation of mean scores with regard to nutritional habits among male sedentary people, Inter collegiate, Inter University, and International athletes.

Discussion of the Findings

The present results also indicates that the significant and insignificant differences among athletes of different disciplines who played at different levels and male university sedentary students with regard to Body fat % and Nutritional knowledge.

Body fat %: It was found that there was a significant difference among athletes of different disciplines who played at different levels and sedentary people with regard to Body fat%. Athlete students had better condition in comparison to non-athletes. Various aspects cause fatness; the utmost of them are genetic, environmental factors and life style. It may be due to no physical activity and decline in the level of balanced diet.

Nutritional knowledge: The result of the study shows that the there was an insignificant difference between sedentary university students and intercollegiate but significant difference among inter-university, international and sedentary students with regard to nutritional knowledge. Which shows that nutritional knowledge between sedentary people and intercollegiate are same. Both groups have less nutritional knowledge. They are not aware for the demand of sound nutritional knowledge**.** A Study of Nutrition Knowledge, Attitudes and Food Habits of College Students and athletes supported this study.

Conclusion of the study

On the basis of findings of present study, the following conclusions were drawn

1) Based on the findings of this study, the following conclusions were drawn to conclude, It is evident that the results of Analysis of Variance (ANOVA) among sedentary students and athletes (intercollegiate, inter-university and international) with regard to Body fat% were found to be statistically significant (P>0.05). Since the obtained "F" ratio 45.31 (.000) was found statistically significant.
2) Based on the findings of this study, the following conclusions were drawn to conclude, It is evident that the results of Analysis of Variance (ANOVA) among ssedentary students and athletes (intercollegiate, inter-university and international) with regard to nutritional knowledge were found to be statistically significant (P>0.05). Since the obtained "F" ratio 41.18 (.000) was found statistically significant.

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