



PREVALENCE OF VEGETARIANISM AND NON-VEGETARIANISM AMONG SPORTS TRAINEES AND THEIR MOTOR ABILITY STATUS

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Abstract: Choice of food as per the nutritional and body requirement according to the specific function, work or game is getting importance day by day as diet plays a major role in the performance of any individual. There are multiple factors affecting the sports performance which include physical, motor, structural, psychological, sociological and economical etc. The present study is focused on the assessment of prevalence of vegetarianism and non-vegetarianism among sports persons and their motor ability status. For the present study sports trainees between the age range 14 to 19 years of different games of respective coaching centres situated in Chandigarh have been selected. Scott motor ability test of three batteries was applied to evaluate the motor ability level of the sports trainees. The sports persons were divided into two groups on the bases of their vegetarian and non-vegetarian diet intake for the assessment prevalence of food style. The vegetarian and non-vegetarian sports trainees were compared with regard to their motor ability level with the help of t-test. The assessment of prevalence of choice of food shows that the trend of non-vegetarian food is more prevalent among the selected sports persons of Chandigarh coaching centres. The comparative analysis of vegetarian and non-vegetarian athletes indicate that no statistically significant difference has been found in the motor ability status of vegetarian and non-vegetarian athletes but the comparison of mean values of motor ability of vegetarian and non-vegetarian sports trainees also shows that the non-vegetarian sports trainees are better in arm and shoulder strength, leg power, speed, agility and coordination as compared to vegetarian athletes. The findings of the results are clear indication of the supremacy of non-vegetarianism among sports trainees of Chandigarh coaching centres. Although no significant difference has been found in the motor ability status of vegetarian and non-vegetarian sports trainees.

Keywords:

Vegetarian diet, non-vegetarian diet and motor ability.

INTRODUCTION

According to a study (Meyer N., Reguant-Closa A, 2017), there is a growing interest in plant-based diets, especially in relation to vegan diets and semi-vegetarian or flexitarian diets among athletes. Approximately 8% of international athletes follow a vegetarian diet, and 1% is vegans (Melina V., Craig W., Levin S, 2016). Vegetarian and vegan diets have been linked to a reduced risk of chronic diseases among non-athletes (Melina V., Craig W., Levin S, 2016). In their work, Craddock et al. performed a comparative analysis of physical performance in athletes, which did not reveal clear differences between a vegetarian diet and an omnivorous mixed diet. The prevailing vegetarian diet did not improve or decrease the performance of the athletes [Craddock J.C., et.al, 2016]. However, owing to its high carbohydrate content, a vegetarian diet can be beneficial for energy storage. In addition, antioxidants and phytochemicals are helpful (Craddock J.C., et.al, 2016., Trapp D., Knez W., Sinclair W.,2010). However, plant-based diets can reduce certain nutrients in the body, including omega-3 fatty acids, iron, zinc, calcium, vitamin D, iodine, and vitamin B12. These nutrients are less present in plant foods or are less readily absorbed from plants than from animal sources (Sinclair W.2010). Dairy products are also in demand, as they are some of the best muscle-building aids in sport (Rankin P. et al. 2015. Cockburn E. & Bell P.G. 2013. , Alcantara J.M.A. et al 2019). However, athletes often experience lactose intolerance. In this case, milk must be replaced with products containing enzymes, such as fermented milk. The digestibility of such products reaches 91%, in contrast to the digestibility of milk, which is 34% (Alm L.,1982). Looking at the importance of correct diet for the specific work performance the present study is focused on the assessment of prevalence of vegetarianism and non-vegetarianism among sports persons and their motor ability status. Sports trainees between the age group 14 to 18 years of different games of different coaching centres situated in Chandigarh were selected for the present study.

Objectives of the paper

1. Assessment of prevalence of vegetarianism and non-vegetarianism among sports trainees of Chandigarh coaching centres.
2. Comparative analysis of selected sports trainees of Chandigarh taking vegetarian and non-vegetarian diet with regard to their arm and shoulder strength.
3. Comparative analysis of selected sports trainees of Chandigarh taking vegetarian and non-vegetarian diet with regard to their leg power.
4. Comparative analysis of selected sports trainees of Chandigarh taking vegetarian and non-vegetarian diet with regard to their speed, agility and coordination .

Delimitation of the study

To accomplish the present study random sampling technique has been used. The sample has been selected from the various coaching centres of Chandigarh which included 159 sports persons within the age range of 14 to 19 years belonging to the basketball, boxing, cricket, hockey and handball sports disciplines. The Scott motor ability three battery test has been used to evaluate the motor ability of selected sports persons. The sample was divided into two groups having vegetarian and non-vegetarian diet.

Statistical analysis

Statistical Procedure (SPSS 11.00) was used for analysis of data. Values were presented as Mean and Standard Deviation. Percent distribution was computed to determine the prevalence of vegetarianism and non-vegetarianism among subjects. One way analysis of variance followed by Least Significance Difference test was used to find out whether the difference of means in each parameter between the groups was significant differences were considered significant at $p < 0.05$ level.

Results and discussion

Table-1
Prevalence of vegetarianism and non-vegetarianism in the selected sports trainees

State	
Veg/non-veg	Chandigarh
Veg.	61 38.4%
Non-veg.	98 61.6%
Total	159 100.0%

Table-1 shows the prevalence of vegetarianism and non-vegetarianism among selected Sports trainees taking vegetarian and non-vegetarian diet of sports trainees of Chandigarh coaching centres. 38.4 percent of total trainees have registered their interest in vegetarian diet whereas 61.6 percent have registered themselves as non-vegetarian diet taking sports persons.

Table-2
Significance of Mean difference between Sports trainees taking vegetarian and non-vegetarian diet of Chandigarh coaching centres with regard to Motor Ability

Variable	Category	N	Mean	Std. Deviation	t-value	p-value
Arm and shoulder strength	Veg.	61	11.216	2.314	1.861	.065
	Non-veg.	98	11.924	2.345		
Leg power	Veg.	61	1.677	0.209	1.794	.075
	Non-veg.	98	1.755	0.297		
Speed, agility and coordination	Veg.	61	20.858	1.725	.768	.444
	Non-veg.	98	20.618	2.029		
Motor ability	Veg.	61	3.922	5.483	1.850	.066
	Non-veg.	98	5.688	6.069		

Table-2 displays the Mean and S.D. values of vegetarian and non-vegetarian sports trainees with regard to arm and shoulder strength that are 11.216 ± 2.314 and 11.924 ± 2.345 respectively. The significant difference ($p > 0.05$) has not been observed between Vegetarian and non-vegetarian sports trainees as their t-value has 1.861 with p-value (sig) = .065. The comparison of mean values of vegetarian and non-vegetarian sports trainees shows that the vegetarian sports trainees are significantly better in arm and shoulder strength as compared to non-vegetarian athletes. The Mean and S.D. values of male and female sports trainees with regard to leg power are 1.677 ± 0.209 and 1.755 ± 0.297 respectively. The significant difference ($p > 0.05$) has not been observed between vegetarian and non-vegetarian sports trainees as their t-value has 1.794 with p-value (sig) = .075. The comparison of mean values of vegetarian and non-vegetarian sports trainees shows that the non-vegetarian sports trainees are significantly better in leg power as compared to vegetarian athletes. The Mean and S.D. values of vegetarian and non-vegetarian sports trainees with regard to speed, agility and coordination are 20.858 ± 1.725 and 20.618 ± 2.029 respectively. The significant difference ($p > 0.05$) has not been observed between vegetarian and non-

vegetarian sports trainees as their t-value was found .768 with p-value (sig) = .444. The comparison of mean values of vegetarian and non-vegetarian sports trainees shows that the vegetarian sports trainees are significantly better in speed, agility and coordination as compared to non-vegetarian athletes. The Mean and S.D. values of vegetarian and non-vegetarian sports trainees with regard to motor ability are 3.922 ± 5.483 and 5.688 ± 6.069 respectively. The significant difference ($p > 0.05$) has not been observed between vegetarian and non-vegetarian sports trainees as their t-value has 1.850 with p-value (sig) = .066. The comparison of mean values of vegetarian and non-vegetarian sports trainees shows that the vegetarian sports trainees are significantly better in motor ability as compared to non-vegetarian athletes.

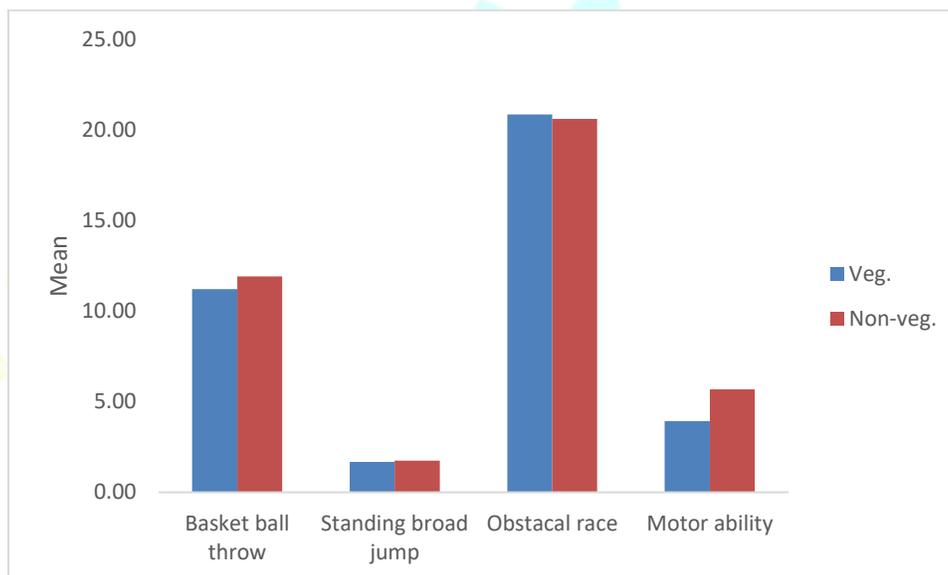


Figure-31 Graphical representation of mean scores between Sports trainees taking vegetarian and non-vegetarian diet of Chandigarh coaching centres with regard to motor ability.

Findings of the study

The results of the present study are clear indication of the significant prevalence of non-vegetarianism among the selected sports trainees. It has also been found that statistically significant difference exists between vegetarian and non-vegetarian sports trainees with regard to their leg power, speed, agility and coordination and non-vegetarian sports trainees have registered better level of these variables of motor ability. Although, no statistically significant difference has been found with regard to their arm and shoulder strength but the level of the vegetarian and non-vegetarian athletes is almost equal as shown in the table-2

Discussion

The increasing trend of non-vegetarianism as registered by the selected sports trainees may be due to the better level of motor ability status of non-vegetarian sports trainees. Although a well-planned and varied vegetarian diet is perfectly consistent with good health and can potentially reduce the risk of many chronic diseases (White & Frank, 1994). But it is also documented that Athletes who were practicing meatless dietary regimen most frequently reported low energy intake, along with low levels of vitamins and minerals (Lukaski, 1995). However vegetarian diets can meet the nutritional requirements of athletes with appropriate selection of foods (Joint Position Statement, 2000). Many studies have been conducted to compare the athletic ability of vegetarian vs non-vegetarian subjects but no difference has been reported (Cotes et al., 1970, Williams, 1985, Hanne et al., 1986). The study done by khanna et.al shows prevalence of non-vegetarianism was high in Indian sports women than lacto, ovo-lacto vegetarianism. Nutrient intake, haemoglobin level, endurance time was better in non-vegetarians than lacto, ovo-lacto vegetarians.

Conclusion

From the results of the study it can be concluded that prevalence of non-vegetarian is high in the selected sports trainees of 14 to 19 years of age of Chandigarh. The motor ability status of non-vegetarian sports trainees is better than the vegetarian.

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