

Dietary Supplement use Among College Athletes

Hardeep Kaur Saini , Sukhjivan Singh



Abstract: This study has been carried out the dietary supplements uses among college athletes. The sample of the study comprises of 220 athletes (150 males and 70 females) randomly selected from different degree colleges of Patiala. For this purpose a 16 item questionnaire was prepared by the investigators keeping in view the variety of diet supplement usage. Data was analysed through frequencies & Pearson Product-Moment correlation Coefficients. The use of dietary supplements between males and females athletes was evaluated with the T-test. Significance level was determined at $p \geq 0.05$.

Key Words: Athletes, Nutrition, Balanced Diet, Dietary supplements.

I. INTRODUCTION

In today's era, the most difficult part of the life is to get a balanced diet. A balanced diet with adequate calories provides us with all necessary nutrients of healthy living. Athletes need more nutrients during their exercise and training program but they are not able to get a proper diet which is required to fulfil their nutritional requirements and hence they have to imbibe nutritional supplements to fulfil their nutritional needs. The athletes need nutritional supplements with the intention of preventing deficiencies and enhancing performance. Even those who are not taking part in the sports; they also take dietary supplements to execute their daily requirements. The growth of dietary supplement industry is putting an impact on athletes. It has come to the notice that the athletes are consuming different variety of dietary supplements to enhance their performance even when the nutritionist suggests that these supplements are not good for some athletes. The athletes want to show their high performance in the competition and do not bother about the bad effect of the dietary supplement in their life.

The athletes who compete at National, International and Olympic level are engaged in supplementation. All level of athletes use dietary supplements more in training phase (98%) than competition phase (87%). The dietary supplement market in India grew of 20% from 2015 to 2018.

Vitamins and minerals occupy a large share of the pie in the Indian dietary supplements market i.e. 40% followed by protein segment contributing 25% and other segments contributing around 5% of the total market. The supplement industries of an international market are earning billion of dollars. The use of dietary supplements among U.S. adults has increased 10% over the past decade, confirm new data from 2018 CRN consumer survey on dietary supplements. Results of the 2018 survey also revealed emerging trends in both consumer behaviour and product demand. According to the 2018 survey, 78% of adults aged 55+, 77% of adults aged 35-54, 69% of adult aged 18-34 take dietary supplements. Many individual, who engage in sports and physical activities, use dietary supplements to make their body fit. The American market for dietary supplements was valued \$37 billion in 2015, \$122 billion in 2016. The estimates of 2016 analysis that the dietary supplements demand could reach \$278 billion worldwide by 2024.

II. METHOD

The study sample included 220 athletes (150 males and 70 females) randomly selected from different degree colleges of Patiala. The athletes' age ranged from 18 to 25 years. The questionnaire was prepared by the investigators keeping in view the variety of dietary supplement usages in college athletes and sources of information regarding dietary supplements use.

COLLECTION OF DATA

Male and female athletes represented 77.27% and 22.72% of the sample respectively. The mean age was 21.5 ± 2.29 years, the sample of 13.64% from 18 years of age, 25.91% from 19 years of age, 21.82% from 20 years of age, 12.73% from 21 years of age, 10.91% from 22 years of age, 7.27% from 23 years of age, 5.91% from 24 years of age and 1.82 from 25 years of age in the study. Participants of sports represented in the survey are from Basketball, Football, Hockey, Volleyball, and Cricket, Track & Field events, Cycling, Table Tennis, Wrestling, Power Lifting, and Swimming. Athletes voluntarily completed their questionnaire during a specified time. The participants in the study 66.36% of athletes were taking dietary supplements whereas 33.64% were not taking any of the dietary supplements.

STATISTICAL ANALYSIS

The computed data were analyzed with help of Mean, Standard deviation and Pearson Product Moment Correlation Coefficients. The T-test was also used to evaluate the difference between males and females in dietary supplements. Significance level was determined at $p \geq 0.5$.

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III. RESULT AND DISCUSSIONS

➤ Relationship between Age and Dietary Supplements Use among Different degree College-Athletes

The following table 1 shows the relationship between Age and dietary supplements uses

Table-1 Correlation Coefficient between Age and Dietary Supplements Use

Groups	Mean	SD	Correlation (r)
Age (years)	21.5	2.29	0.03
Dietary Supplement	26.4	25.83	

Table -1 shows that the value of mean and SD of the age and dietary supplements were 21.5 ± 2.29 and 26.4 ± 25.83 respectively. There was low positive relationship between age group and dietary supplements use.

➤ Percentage of Dietary Supplement Use among Different Degree Colleges Athlete

The following table 2 shows the Percentage of Dietary Supplement Use among athletes of different degree colleges.

Table -2 Dietary Supplement Use among College Athletes

Dietary supplements	Athletes	Percentage(%)
Multivitamin	45	20
Whey Protein	68	30.9
BCAA(Branched-Chain Amino Acids)	12	5.45
Pre-workout (CRG9, nitric oxide, Caffeine)	5	2.27
Amino Acid Chain	0	0
Others (Vitamin, Iron, Minerals, Calcium)	16	7.27

Table -2 shows the percentage of dietary supplements use among different degree colleges athlete. The percentage of intake of multivitamin is 20%, whey protein is 30.9%, BCAA (Branched-Chain Amino Acids) is 5.45%, Pre-workout (CRG9, nitric oxide, Caffeine) is 2.27%, Amino Acid Chain is 0%, others (vitamin, iron, mineral, calcium) are 7.27%.

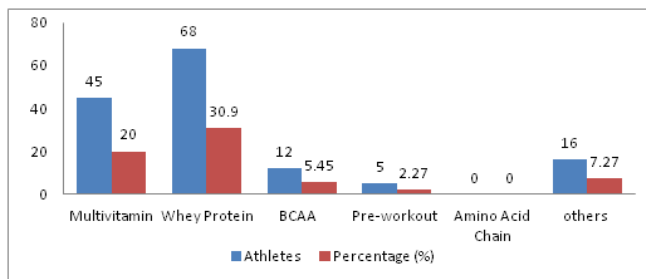


Fig-1 Percentage of Dietary Supplement Use

Fig:1 shows the percentage of dietary supplements use among college athletes. The percentage of intake of multivitamin, whey protein, BCAA (Branched-Chain Amino Acids), Pre-workout (CRG9, nitric oxide, Caffeine), Amino Acid Chain, others (vitamin, iron, mineral, calcium) are 20%, 30.9%, 5.45%, 2.27%, 0%, 7.27% respectively.

➤ Percentage of Sources of Information of Dietary Supplement Use among athlete

The following table-3 shows the Sources of Information of Dietary Supplement Use among athletes of different degree colleges

Table -3 Sources of Information of Dietary Supplement Use among Colleges Athlete

Sources of information	Athletes	Percentage (%)
Coach	87	39.5
Books/ Magazines	23	10.4
Internet	53	24.09
Friends	12	5.45
Nutritionist	6	2.73
Physiotherapist	8	3.64
Other	34	15.45

Table-3 shows that sources of information of dietary supplements use among different degree colleges athlete. The percentage of getting information of dietary supplements from coach is 39.5%, books/magazines are 10.4%, internet is 24.09%, friend is 5.45%, nutritionist is 2.73%, physiotherapist is 3.64% and others (family members, relatives, teacher) are 15.45%.

➤ Difference between Males and Females of Dietary Supplement Uses of Different Degree Colleges Athlete

The following Table-4 shows the values of Mean, Standard Deviation and t-value for comparison between males and females of dietary supplement uses.

Table -4 Analysis of Dietary Supplement Uses between Males and Females Athletes

Dietary supplements	Mean	SD	t-value
Males	197.3	58.94	5.47*
Females	167	105.33	

*Table Value= 1.96 at 0.01 level

Table-4 represents the mean, SD and t-value between males and females of dietary supplement uses from different degree colleges athletes that the mean value/SD of male athletes was found higher 197.3 ± 58.94 as compared to females athletes 167 ± 105.33 . The obtained t-value for this difference was found to be significant ($t=5.47$; $p<0.01$).

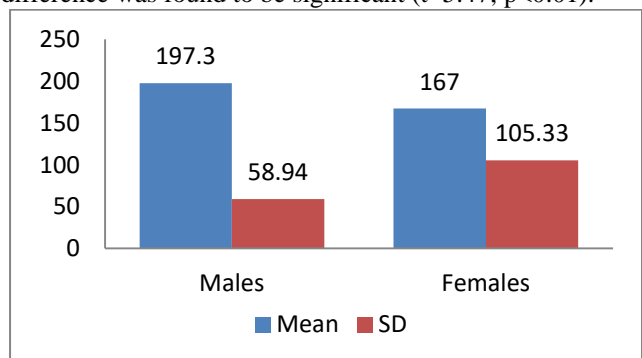


Fig-2 Mean and SD of Dietary Supplement Use between Males and Females Athletes

Fig:2 shows the Mean and SD of males is 197.3 ± 58.94 and females 167 ± 105.33 . However, the t-ratio is 5.47, which is significant at 0.01 level.

The calculated value of dietary supplements use between males and females (5.47) is more than the table value (1.96), hence we reject the hypothesis. There is a significant difference between males and females athletes in uses of dietary supplement.

Thus the hypothesis, "There will be no significant difference of dietary supplement use between males and females athletes" is rejected.

IV. CONCLUSION

Nutrition especially diet supplements being an essential part of an athlete has always attracted attention of researchers all around the world. The wide variety of dietary supplements are used to improve performance by the college athletes even through nutritionist suggest that these supplements may be beneficial for only small group of people.

The correlation between age and dietary supplement was calculated through Karl Pearson Product Moment Correlation Coefficient and it came out to be significantly nil. Furthermore, the percentage of various types of Dietary Supplement Use among athletes was calculated and the results came out to be varied. More over use of diverse sources of information among athletes were also found out. From all the results found out through this study is of significance in today's world as the people have started blindly following use of supplement diet which should be avoided and to be taken only under expert supervision.

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