THE EFFECT OF NUTRITIONAL KNOWLEDGE ENHANCES ATHLETIC PERFORMANCE AMONG ELITE ATHLETES

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Abstract

The purpose of this research was to investigate the effect of six weeks Nutritional Knowledge training on Athletic performance awareness among Elite Athletes. In this experimental study, demographic questionnaire, Nutritional Knowledge Scale for this study was used. Sixty athletes from Palakkad district elite athletes were chosen with randomized way allocated into an experimental and a control group. The experimental group participated in daily Nutritional Knowledge practice for 20 minutes duration for one and half month. Both groups were assessed again after the one and half month study period. The data were analysed using descriptive Mean, SD and independent t-test in statically methods. Result exposed significant increase in Athletic performance.

KEYWORDS: .Nutritional Knowledge, Athletic Performance, Elite Athletes

INTRODUCTION

The diet of an athlete is one factor among many that has a great influence on athletic performance and overall health and wellness. Athletes are left with very little time to meet their nutrition needs. The athletes tend to grab the easiest on the go food for their meal. Athletes know that this lack of nutritious food can affect their performance. Athletes need regular well balanced meals and snacks to maintain the high energy demands of training, competition, and the rigor of an academic program. Nutrient intake was found to possibly be influenced by factors such as lack of time, hectic training schedule and increased emphasis on physical features, such as leanness and body image. Assessment of meal patterns not only can facilitate the development of health promotion and prevention, but also provide information about desirable dietary behaviours. In turn, serve as an aid for nutritional counselling and applied in the assessment for an eating disorder. Professionals can help athletes recognize the role of nutrition in sports and help them choose the most appropriate foods and fluids to attain peak performance. Athletes can obtain nutritional knowledge from a variety of sources such as magazines, parents, coaches and teammates. Athletic trainers, who are medical professionals, can also be a source of information for the athlete. The athlete, who has control over what to eat, must make decisions and become aware of their nutritional habits. The proper decisions can be obtained with the proper nutrition education. Athletes can understand the key concepts behind the food that they are eating with proper education and good decisions when it comes to their food choices. The ideal diet for an athlete is 40% carbohydrates, 30% protein and 30% fat. Carbohydrates are not only the favoured fuel but also the body's most efficient source of energy. A low intake of carbohydrates will not meet

the energy demands on an athlete who requires long durations of activity. Carbohydrates should also be included in the pre-game meal, which should be eaten three to four hours ahead of competition along with plenty of fluids. The athletes know that what to eat after competition can be beneficial too. Restore the nutrients that were lost in competition and enhance readiness for the next game. Glycogens and fluids are the key components of the post-game meal. An athlete who is well nourished is not only healthy but typically capable of training more intensely.

Kanarek and Swinney(1990) demonstrated the beneficial effects of well-spaced meals and snacks on cognitive performance in College athletes. Consequently, research and interest in the topic of sports nutrition for the benefit of enhanced physical and cognitive performance continues to advance, with new studies more closely examining the role of macro and micronutrients and dietary supplements on performance and recovery. The athlete who is looking to optimize athletic performance should follow a well-designed plan for diet and hydration. According to Burke (2007) the goals of this plan should include meeting calorie and nutrient requirements, achieving and maintaining an appropriate body weight and composition, supporting adaptation and recovery between training sessions, and maintaining optimal health. Popp N, Hums M, Greenwell C. (2009) collegiate athletes generally maintain a positive attitude toward nutrition and recognize the relationship between nutrition and athletic performance and health. Birkenhead and Slater (2015): “Motives for participating in sport may influence the importance placed on food choice as personal goals may differ from an athlete with physique goals to another who enjoys the freedom of eating whatever they desire…motivation to participate in sport may be based on a lifestyle choice that influences food choice. Consuming adequate calories for energy should be the top dietary priority for an athlete. Achieving a balance between caloric intake and expenditure will help an athlete maintain body weight and lean body mass and contribute to optimal athletic performance. Athletes may vary considerably depending on a number of factors including body size and composition and sport played. An inadequate calorie intake relative to expenditure results in compromised physical performance.A peanut butter sandwich, trail mix, fruit, apple slices smeared with peanut butter, etc. Afterward, eat a meal with protein to replenish what they burned off.Athletes exercise for under 90 minutes;they have enough glycogen in their muscles, even for high-intensity activities. But if their workout is longer than that, use the Protein doesnot provide a lot of fuel for energy. But Athleteneeds it to maintain their muscles and Milk also has both casein and protein. The combination may be particularly helpful for athletes.

METHODOLOGY

The purpose of the study was to investigate the effect of Nutritional Knowledge enhancesAthletic performance among Elite athletes. To achieve the purpose of these study sixty collegeathletes were randomly selected in elite athletes were chosen Palakkad district Kerela, India.Their age ranged between 21 to 25 years.For the tests randomized group design which consists of control group and experimental group were used. The subjects were randomly assigned to two equal groups of thirty each and named as Group 'A' and

Group 'B'Group ‘A’ undertook Nutritional Knowledge practice for twenty minutes once a day for forty fivedaysand Group 'B' undertook not any practice and they had their routine life. Nutritional Knowledge scale is measuring widely used in social-science research. The data was collected before and after six weeks of training Paired’t’ ratio was computed. The level of significance was set at 0.01.

RESULT & DISCUSSION

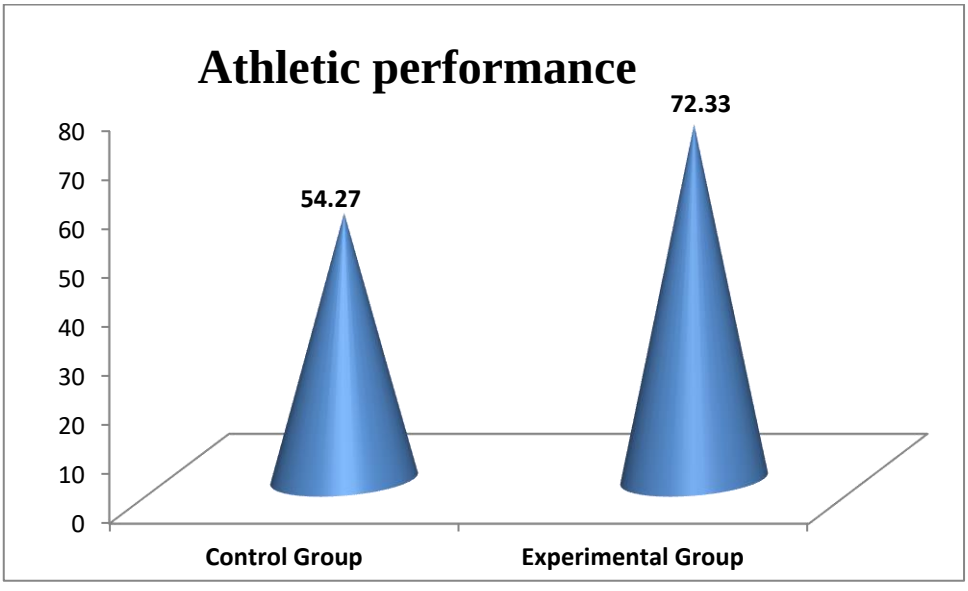
The primary objective of the paired 't' ratio was to describe the differences between the Control group and Experimental Group mean among College Elite athletes.

TABLE – I

SHOWING MEAN DIFFERENCE OF CONTROL AND EXPERIMENT GROUP AMONG ELITE ATHLETES IN THEIR NUTRITIONAL KNOWLEDGE PRACTICES ON ATHLETIC PERFORMANCE

Athletic performance	N	Mean	SD	t-value	Significant
Control Group	30	54.27	8.20	11.44	S (0.01)
Experimental Group	30	72.33	5.12		

Required table value: 2.58 (0.01)



It is obvious fact from table that Nutritional Knowledge has significant effect enhances Athletic performance level between Experimental Group and Control group. As the mean value of experimental group is 72.33 and control group is 54.27.An examination of table indicates that the obtained 't' ratio was 11.44 for Athletic performance respectively. The

obtained 't' ratio was found to be greater than therequired table value of 2.58 at 0.01 level of significance for 1, 29 degrees of freedom. Hence it was found to be significant.Athletes eat a carbohydrate and rich snack forty five minutes before their event. Athletes knew that protein is absorbed quickly, which can help speed recovery immediately after an event. Casein is digested more slowly, helping to ensure long-term recovery of muscle after a gruelling event. Milk also has calcium, which is important for maintaining strong bones. Time their meals to give energy and hydration when the athletes need them. They understand that pack water and sports drinks, as well as meals and snacks, which the athletes need for pre-workouts and pre-athletes time. This result has better energy, blood circulation, more oxygen flow and greater attention on athletic performance. It enhances successful achievement in performance. Nutritional knowledge enhances athletic performance, Personality, emotionally stable, extroverted, and reliable individuals experience and social acceptance in athletic performance.

CONCLUSION

Nutrients such as protein, calcium, and iron can have significant positive impacts on performance. Proper nutrition plays a large role in determining student-athletes food choices. Athlete's accessibility in different ways but the overall impact of access to proper nutrition can positively or negatively affect what athletes believe.Education and awareness around sports nutrition is largely lagging behind. This is especially true and concerning in the case of athletes. Eating for every day active people must be different than those who are more sedentary. In this case, athletes are assumed to be much more active individuals.

REFERENCES

- Burns RD, Schiller R, Merrick MA, Wolf KN. Intercollegiate student athlete use of nutritional supplements and the role of athletic trainers and dietitians in nutritional counseling. J Am Diet Assoc. Feb 2004; 104: 246-49. 54
- Clark K. Working with college athletes, coaches, and trainers at a major university. Int J Sports Nutr. Jun 1994; 4(2): 135-41.
- Corley G, Demarest-Litchford M, Bazzarre T. Nutrition knowledge and dietary practice among college coaches. J Am Diet Assoc. May 1990; 90(5):705-9.
- Dunn D, Turner LW, Denny G. Nutrition knowledge and attitudes of college athletes. *The Sport Journal* – ISSN: 1543-9518.
- Jacobson BH, Sobonya C, Ransone J. Nutrition practices and knowledge of college varsity athletes: a follow-up. J Strength Cond Res. Feb 2001: 15(1): 63-8.
- Messick S. Validity of psychological assessment: validation of inferences from persons' responses and performances as scientific inquiry into score meaning. American Psychologist. Sept 1995; 50(9):741-49.
- Nichols PE, Jonnalagadda SS, Rosenbloom CA, Trinkaus M. Knowledge, attitudes, and behaviors regarding hydration and fluid replacement of collegiate athletes. Int J Sport NutrExercMetab. Oct 2005; 15(5): 515-27.
- Paugh-Weaver S, Biddington C, Roh J, Barnhart B. Dietary habits and nutritional knowledge of college athletes. *J Athletic Training*. 2006:41(suppl 2):S-37.

- Perron M, Endres J. Knowledge, attitudes, and dietary practices of female athletes. J Am Diet Assoc. May 1985; 85(5): 573-6.
- Popp N, Hums M, Greenwell C. Do international student-athletes view the purpose of sport differently than United States student-athletes at NCAA Division I universities? Journal of Issues in Intercollegiate Athletics. 2009; 2:93-110.
- Quatromoni PA. Clinical observations from nutritional services in college athletics. J Am Diet Assoc. 2008 Apr; 108(4):689-94.
- Small, M, Baily-Davis L, Morgan N, Maggs J. Changes in eating and physical activity behavior across seven semesters of college: Living on or off campus matters. Health EducBehav. Dec 2012.
- Steib CS, Hoogenboom B. The female collegiate cross-country runner: Nutritional knowledge and attitudes. J Athl Train. Mar 2003; 38(1): 67-74.
- Winkleby MA, Cubbin C. Racial/ethnic disparities in health behaviors: a challenge to current assumptions. National Research Council (US) on Race, Ethnicity, and Health in Later Life. National Academies Press (US) 2004.
- Schoeller DA, Limitations in the assessment of dietary energy intake by self-report. Metabolism. Feb 1995; 44: 18-22.
- Tavakol M, Dennick R. Making sense of Cronbach's alpha. International Journal of Medical Education. 2011; 2:53-55.
- Vinci DM. Effective nutrition support programs for college athletes. International Journal of Sport Nutrition. 1998 Sep; 8(3):308-20.
- Ziegler PJ, Jonnalagadda S, Nelson JA, Lawrence C, Baciak B. Contribution of meals and snacks to nutrient intake of male and female elite figure skaters during peak competitive season. J Am CollNutr. April 2002; 21(2): 114-19.