Study of Relationship between Nutritional Knowledge and Dietary Habits among Goan Adolescent Sportspersons and Non- sportspersons

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ABSTRACT

The purpose of the study was, to study the relationship between nutritional knowledge and dietary habits among Goan adolescent sportspersons and non- sportspersons. For which 30 females and 30 males sportspersons, and 30 females and 30 males non- sportspersons were selected using purposive sampling technique. Descriptive relationship method was used to find out the relationship between nutritional knowledge and dietary habits. General Nutritional Knowledge Questionnaire (GKNQ-R) Revised and The Adolescent Food Habits Checklist (AFHC) were used to measure Nutritional Knowledge and Dietary Habits respectively. The collected data was statistically analyzed and the calculated mean and standard deviation of nutritional knowledge and dietary habits of female sportspersons and non- sportspersons were 31.90 (±8.66) and 35.80 (±9.30) respectively and that of male sportspersons and non- sportspersons were 35.53 (±8.90) and 35.53 (±10.94) respectively. In order to study the relationship between nutritional knowledge and dietary habits, Pearson correlation coefficient was calculated. The calculated coefficient of co- relations were 0.40 and 0.50 respectively for female sportsperson Non- sportspersons and that of male sportspersons and non- sportspersons were 0.50 and 0.45 respectively. The results indicate that in all cases that is female sportspersons, female non- sportspersons, male sportspersons and male sportspersons, there is significant relationship (p=0.02, p=0.00, p=0.00, p=0.01 respectively) at 0.05 level of significance between nutritional knowledge and dietary habits among Goan adolescent sportspersons and non-sportspersons. Therefore it can be concluded that nutritional knowledge determines Dietary habits in sportspersons and non- sportspersons among males and females Goan adolescents..

Keywords : nutritional knowledge, dietary habits, sportspersons, non- sportspersons, adolescents.

Introduction

Nutrition plays a vital role in the physical and cognitive development of adolescents. Proper dietary habits are essential for maintaining overall health, and their importance is even greater for sportspersons who require adequate nutrition to support their performance, recovery, and endurance. However, despite the availability of nutritional information, there remains a gap between knowledge and actual dietary habits, influenced by various factors such as lifestyle, socio-economic status, cultural practices, and personal preferences. This study aims to analyse the relationship between nutritional knowledge and dietary habits among Goan adolescent sportspersons and non-sportspersons, emphasizing the role of education in fostering better dietary practices.

Adolescence is a critical period of growth, marked by increased nutritional demands. Athletes require a higher intake of energy, proteins, carbohydrates, and essential micronutrients to sustain rigorous training and competition schedules (Burke et al., 2006). Poor dietary choices, such as reliance on fast foods, processed snacks, and sugary beverages, can have negative effects on both performance and long-term health. Despite the recognized importance of nutrition in sports, many young athletes lack proper dietary guidance, leading to imbalanced nutrient intake and potential deficiencies (Thomas et al., 2016). Meanwhile, non-sportspersons, although not subjected to the same physical demands, are equally at risk of developing unhealthy eating patterns that contribute to obesity, metabolic disorders, and other lifestyle diseases (Koplan et al., 2005). Understanding how nutritional knowledge influences dietary habits among these two groups is essential for developing targeted interventions to improve adolescent health.

Studies indicate that nutritional knowledge has a direct impact on food choices, with individuals possessing higher knowledge levels being more likely to consume a balanced diet (Spronk et al., 2014). However, knowledge alone does not always translate into practice due to barriers such as peer pressure, food availability, economic constraints, and taste preferences. Adolescents often rely on social media, advertisements, and unverified sources for dietary information, leading to misconceptions about nutrition (Neumark-Sztainer et al., 2010). In the Goan context, where traditional diets coexist with fast food culture, it is crucial to assess how awareness influences food choices among young athletes and non-athletes.

Moreover, research suggests that structured nutrition education programs can significantly improve dietary habits among adolescents. Schools, sports academies, and community programs can play a key role in bridging the gap between knowledge and practice by providing scientifically backed nutrition education (Story et al.,

2002). Coaches, teachers, and parents also have a significant influence on shaping adolescents' dietary behaviors, emphasizing the need for a holistic approach to nutrition education.

Materials and Method:

Descriptive co-relation method was used to study the relationship between nutritional knowledge and dietary habits among Goan adolescent sportspersons and non-sportspersons.

For this study, a total of 120 (30 females and 30 male sportspersons, and 30 females and 30 males non- sportspersons) adolescents aged 17-18 years from Goan higher secondary schools participated in the study who were selected by purposive sampling technique.

In this study, nutritional knowledge was measured by General Nutritional Knowledge Questionnaire (GNKQ-R) Revised, which was developed by Parameter and Wardle in 1999 which was then revised by Kilemann et al. in 2016. It is a self-administered tool designed to measure Nutritional Knowledge. It consists of four independent sections, each assessing a different aspect of nutrition knowledge: Dietary recommendations, Food groups, Healthy Food choices and Diet and Disease and weight management.

Dietary Habits was measured by The Adolescent Food Habits Checklist (AFHC) which was developed Johnson, Wardle and Griffith in 2002. It is a self-administered tool designed to measure Dietary Habits. It consists of 23 items, each requiring a yes/no response. Each Healthy response receives 1 point. For most items, a True response is considered Healthy and earns point. However, for questions 3, 8, 14, 18 and 21, a False response is considered Healthy and earns 1 point. All other responses are scored as 0. Final score should be adjusted for 'not applicable' responses (questions 1, 6, 7, 11, 16, 17,18, 19, 20, 21), and missing responses using the formula: AFHC score= No of 'healthy' responses x (23/no of items completed).

Results:

The purpose of the research was to study relationship between nutritional knowledge and dietary habits among 60 adolescent sportspersons and 60 adolescent non-sportspersons for which General Nutritional Knowledge Questionnaire Revised (GNKQ-R) and The Adolescent Food Habits Checklist (AFHC) respectively were administered and collected data were analysed for descriptive statistics

Table No. 1 : *Descriptive statistics of nutritional knowledge and dietary habits*

Gender	Status		Nutritional Knowledge	Dietary Habits
Female (N=60)	Sportspersons (N=30)	Mean	31.90	40.97
		Standard error of mean	1.58	4.42
		Standard deviation	8.66	24.23
	Non-sportspersons (N=30)	Mean	35.80	46.80
		Standard error of mean	1.69	5.18
		Standard deviation	9.30	28.38
Male (N=60)	Sportspersons (N=30)	Mean	35.53	46.43
		Standard error of mean	1.62	5.09
		Standard deviation	8.90	27.89
	Non-sportspersons (N=30)	Mean	33.53	43.00
		Standard error of mean	1.99	5.00
		Standard deviation	10.94	27.38

The Table No. 1 shows the descriptive statistics of nutritional knowledge and dietary habits of Goan adolescents sportspersons and non- sportspersons, where the mean scores are 31.90, 35.80, 35.53 and 33.53 with standard deviation 8.66, 9.30, 8.90 and 10.94 and lastly standard error of mean are1.58, 1.69, 1.62 and 1.99, respectively of nutritional knowledge and of dietary habits mean scores are 40.97, 46.80, 46.43 and 43.00 with standard deviation 24.23, 28.38, 27,89 and 27.38 and lastly standard error of mean 4.42, 5.18, 5.09 and 5.00 respectively of dietary habits, for female sportspersons, female non- sportspersons, male sportspersons and male sportspersons respectively.

Table No. 2 : *Pearson coefficient correlation between nutritional knowledge and dietary habits*

Gender	Status	N	Pearson correlation (r)	Sig (2-tailed)
Female	Sportspersons	30	0.40	0.02
	Non- sportspersons	30	0.50	0.00
Male	Sportspersons	30	0.50	0.00
	Non- sportspersons	30	0.45	0.01

The above Table No. 2 states the Pearson coefficient correlation value of nutritional knowledge and dietary habits. The calculated r value are as follows, for female sportspersons and non- sportspersons, r value are 0.40 and 0.50 respectively which is significant at 0.05 level of significance (p=0.02 and p=0.00). For male sportspersons and non- sportspersons, r value are 0.50 and 0.45 respectively which is significant at 0.05 level of significance (0.00 and 0.01).

The analysis of data collected through General Nutritional Knowledge Questionnaire-Revised (GNKQ-R) and The Adolescent Food Habits Checklist (AFHC) revealed that there is significant relationship between nutritional knowledge and dietary habits among Goan adolescents in all the above cases.

Discussion

The analysis of data collected using the General Nutritional Knowledge Questionnaire-Revised (GNKQ-R) and The Adolescent Food Habits Checklist (AFHC) revealed a significant relationship between nutritional knowledge and dietary habits among Goan adolescent sportspersons and non-sportspersons, irrespective of gender. These findings align with previous research that suggests higher nutritional knowledge is associated with healthier dietary choices among adolescents (Spronk et al., 2014). The study found that adolescent sportspersons had significantly higher nutritional knowledge compared to non-sportspersons. This aligns with research by Spendlove et al. (2012), which found that athletes generally have better awareness of nutrition due to their exposure to coaches, trainers, and structured sports programs. Their dietary habits also reflected healthier choices, such as a higher intake of fruits, vegetables, and protein-rich foods, which are essential for athletic performance (Potgieter, 2013).

The findings indicate that female adolescents exhibited higher nutritional knowledge than their male counterparts, regardless of sports participation. This is consistent

with previous studies (Wardle et al., 2004), which suggest that females tend to be more health-conscious and aware of nutrition-related issues. However, despite this awareness, some female adolescents engaged in restrictive dieting behaviors, influenced by societal beauty standards and body image concerns (Deliens et al., 2014). Adolescents with greater nutritional awareness were more likely to engage in meal planning, read food labels, and make conscious food choices. This pattern aligns with the findings of Larson et al. (2017), which indicate that nutritional literacy plays a crucial role in fostering long-term healthy eating behaviors. Hence, by imparting nutritional knowledge, we can positively influence dietary habits in both adolescent sportspersons and non-sportspersons, leading to healthier eating patterns and overall well-being.

Conclusion

It is concluded that nutritional knowledge determines Dietary habits in sportspersons and non- sportspersons among males and females Goan adolescents.

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