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Nutritional Knowledge and Attitudes of Physical Education Students in Thiruvananthapuram District, Kerala

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Abstract: **Nutrition is essential for athletes because it provides a source of energy required to perform the activity. Focusing on the right nutrition is the key to enhancing athletic performance. The study aimed to assess the nutritional knowledge and attitudes of physical education students in Thiruvananthapuram district. For this, 127 physical education students of age 21 – 37 years were surveyed. The questionnaire used in this study included 50 questions/statements each to assess nutrition knowledge and attitude. Statistical analysis was done using descriptive statistics like mean, Standard Deviation (SD), frequency and independent sample t test. The mean score was – 51.9%. The attitude of these students towards food and nutrition was excellent (41%). The overall nutritional knowledge and attitude of these students was categorised as good with a score of 62.2%. Gender wise difference were not significant. Mean scores were just slightly lower for males (m=42.35, SD=6.01) than females (m=43.47, SD=5.77). It was concluded that these physical education students were having good nutritional knowledge and attitude. However, many of these students lack the basic nutrition awareness. It is suggested that nutrition counselling by a professional will go a long way in improving their diet which indirectly will have a positive impact on their sports performance.**

Index Terms: **Attitude, Health, Knowledge, Nutrition, Sportspeople.**

I. INTRODUCTION

Nutrition education, specifically sports nutrition, is on the rise and educators must constantly improve their knowledge. Nutrition knowledge is an important factor influencing dietary habits and food choices and thus, crucial in sports nutrition. Dedicated training, expert coaching and sound nutrition are three essential components for optimal performance and health of athletes (Ruud, 2001). Some athletic professionals perceive the nutrition component of performance to be less important than the training and coaching constituents and for this reason; nutrition education for athletes is of utmost importance (Wolinsky, 2001).

Nutrition has been considered to be a top priority behind their primary responsibilities of injury rehabilitation and prevention. The overall goal of nutrition knowledge/ awareness is to change the attitudes and behaviours of students so they embrace a lifetime commitment to health and fitness (Hopper, 2008). Most college athletes understand that food choice has consequences for body composition, athletic performance, and health, but many arrive at college with limited nutrition knowledge. Surveys on nutrition knowledge show that college athletes hold many misconceptions about the role of nutrition and performance (Dunn, 2008). Athletes may be conscious of good food habits, but they may also be tempted by fast food, which is inexpensive and readily available (Dunford, 2006).

Adequate nutrition can enhance the performance of the sportsperson. Majority of the sportsperson knew that proper fuelling can be obtained only by the proper nutrition and in addition to the adequate nutrition knowledge which can be an essential and integral part of a training program (Davar, 2012). However, most of the sportsperson remain poorly educated about healthy nutritional practices and untrained in making appropriate daily nutritional choices. Several other factors might be poor understanding of sports nutrition principles, failure to recognise the specific nutritional requirements, an apparent conflict of nutrition goals, lack of practical nutrition knowledge and skills and overcommitted lifestyle, inadequate time and opportunities to obtain or consume appropriate foods (Nazni, 2010).

Dieticians who work with college athletes report that lack of nutrition education, sleeping through breakfast, improper weight loss and weight gain practices, indiscriminate use of dietary

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supplements, and disordered eating patterns are the biggest concerns (Dunford, 2006).

Athletes and physicians are often poorly informed about nutrition. Common errors include a disproportionately high intake of protein, vitamins and minerals over the Recommended Daily Allowances, poorly designed weight gain or loss programs and various food fads (Sobana, 2016). Athletes may be more inclined to eat right if provided with appropriate information. It is important to determine what type of nutrition education is reaching athletes and how to improve upon this information so that it produces positive changes in consumption (Spectrum Health, 2019).

Different methods of communicating nutrition knowledge must also be considered. The internet is a potentially powerful tool to provide information; however, accurate information as well as inaccurate information will be available. Intensive nutrition education is needed to combat quackery and fads that are targeted to athletes (Kotch, 2013). To start this process, nutritional knowledge of the athlete must first be explored.

II. OBJECTIVES

- To determine the Nutritional knowledge and its relation to the health status of the physical education students.
- To analyze the nutritional knowledge and see how it effectively they apply their nutritional knowledge to their everyday eating habits.
- To systematically review the level of attitude of these students towards the importance of nutrition and health..
- To check whether there is any gender wise difference with regards to nutritional knowledge and attitudes of physical education students.

A. Hypothesis

Adequate nutritional knowledge and attitudes of the physical education students will positively correlate with the healthy eating habits and attitudes.

III. METHODOLOGY

For this study, One hundred and twenty-seven physical education students of age 21 – 37 years were surveyed. A questionnaire was divided into five sections containing multiple-choice, yes/no, true/ false questions, match the following and agree/ disagree questions were given to them. A questionnaire was administered to them and necessary instructions were given to them. Nutrition awareness class was given after the survey. Data was collected and recorded in the excel sheet. Statistical analysis was conducted to evaluate the results.

A. Selection of Area

Lakshmibai National College of Physical Education, Karyavattom, Thiruvananthapuram district.

B. Selection of Sample

127 students aged 21 - 37 were surveyed.

C. Data collection

Nutrition knowledge and attitude were assessed by questionnaire. Participants have explained the study and its importance. The students were asked to voluntarily complete the questionnaire. Each part of the questionnaire was explained and then distributed to the participants while asking them to clarify any doubts they might still have. The questionnaire included five sections. The first four sections comprise basic nutrition, food choices, sports nutrition etc. The last section addresses attitudes towards food.

D. Statistical analyses

Statistical analyses were conducted using SPSS version 19.0. Descriptive statistics were used to determine the mean, Standard Deviation (SD) and percentage of groups. Gender differences in knowledge and attitudes were analysed using an independent sample t test.

IV. RESULTS AND DISCUSSIONS

The data was analyzed and is presented below

A. Age

Table I. Age of the Respondents

	N	%	MEAN	SD	MIN	MAX
AGE	127	100	22.91	2.14	21.0	37.0
Male	76	59.8	23.02	1.7	21	32
Female	51	40.2	22.74	2.67	21	37

Table I, it was known that the subject's age ranged from 21 to 37 years (22.91±2.149). 59.8% of the respondents were male and 40.2% were female.

B. Gender

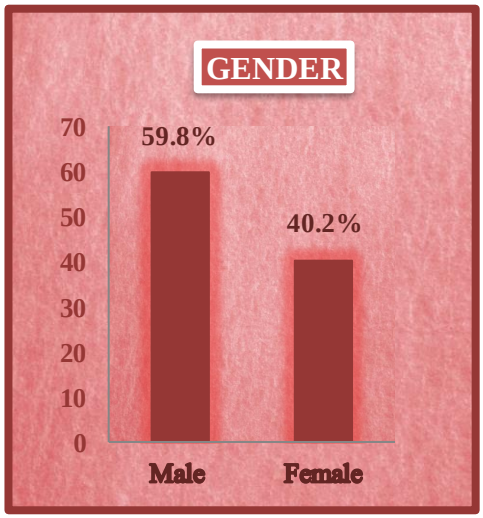

Fig. 1. Gender of the respondents

C. Height

Table II. Height of the Respondents

	N	MEAN	SD	MIN	MAX
HEIGHT	127	1.680	0.079	1.50	1.83
Male	76	1.72	0.05	1.6	1.83
Female	51	1.61	0.02	1.5	1.81

Table II shows that the subject's average height varied from 1.50 m to 1.83 m (1.680±0.079)

D. Weight

Table III. Weight of the Respondents

WEIGHT	N	MEAN	SD	MIN	MAX
Male	76	69.83	6.11	53.3	81
Female	51	58.13	8.59	40	75

Table no III shows that the subject's weight ranged from 40 to 81 Kg (65.13±9.20)

E. Body Mass Index (BMI)

Table IV. Body Mass Index (BMI) of the Respondents

BODY MASS INDEX (BMI)	N	MEAN	SD	MIN	MAX
Male	76	23.42	1.84	18.81	28.34
Female	51	22.33	2.59	15	28.23

TABLE IV (a)

BMI	NUTRITIONAL STATUS	TOTAL
<18.5	**Underweight**	4
18.5-22.9	**Normal**	52
23-24.9	**Overweight**	54
25-29.9	**Pre-Obese**	17
TOTAL		**127**

Table IV shows that the subjects Body Mass Index (BMI) ranged from 15.60 to 28.34. From the total 127 subjects, Table IV (a) shows that Majority (54) were under the category of overweight, 4 of them falls under the category of Underweight, whereas 52 were found to be normal and 17 of them were Pre-obese.

F. Nutritional Knowledge

Table V. Nutritional Knowledge of the Respondents

NK	N	MEAN	SD	t value	df	Sig. P value
	127	29.38	4.613			
Male	76	28.93	4.55	1.34	125	0.180
Female	51	30.05	4.66			

Table V shows that the nutritional knowledge of the subject varies from 14 and 36. There was no significant difference in the nutritional knowledge of the males (m=28.93, SD=4.55) and females (m=30.05, SD=4.66); t(125)=1.34,p=0.1805. The nutritional knowledge was further divided into five categories.

Table V. (a)

SL NO:	RATING SCALE	N	PERCENTAGE
1	**0-08 - Very Poor**	0	0
2	**08-16 - Poor**	1	0.8
3	**16-24 - Average**	4	3.2
4	**24-32 - Good**	66	51.9
5	**32-40 - Excellent**	56	44.1

Table V (a) shows that no one was categorised as very poor. 0.8% were under a poor category, 3.2% were average, 51.9% were good (Majority) and 44.1% were excellent. Fig. 2 shows the graphical representation of the nutritional knowledge of the respondents.

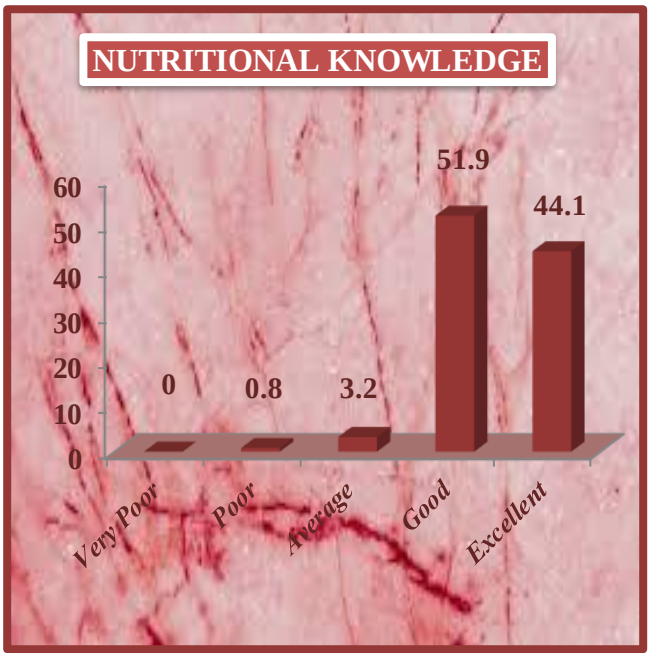

Fig. 2. Nutritional knowledge of the respondents

G. Attitude

Table VI. Attitude of the Respondents

ATTITUDE	N	MEAN	SD	t value	df	Sig. P value
	127	13.417	2.32			
Male	76	13.42	2.36			
Female	51	13.41	2.28	0.023	125	0.98

Table VI shows that the attitude of the subject varies from 8 and 17. There was no significant difference in the attitudes of the males (m=13.42, SD=2.36) and females (m=13.41, SD=2.28); t(125)=0.023, p=0.98.

Table VI (a)

SL NO:	RATING SCALE	N	PERCENTAGE
1	**0-04 - Very Poor**	**0**	**0**
2	**04-08 - Poor**	**0**	**0**
3	**08-12 - Average**	**26**	**20.5**
4	**12-16 - Good**	**49**	**38.5**
5	**16-20 - Excellent**	**52**	**41**

Table VI (a) shows that the attitude was further divided into five categories such as very poor, poor, average, good and excellent. It was found that no one was categorized as very poor as well as poor category, 20.5% were average, 38.5% were good (Majority) and 41% were excellent. Fig. 3 shows the graphical representation of the attitude of the respondents.

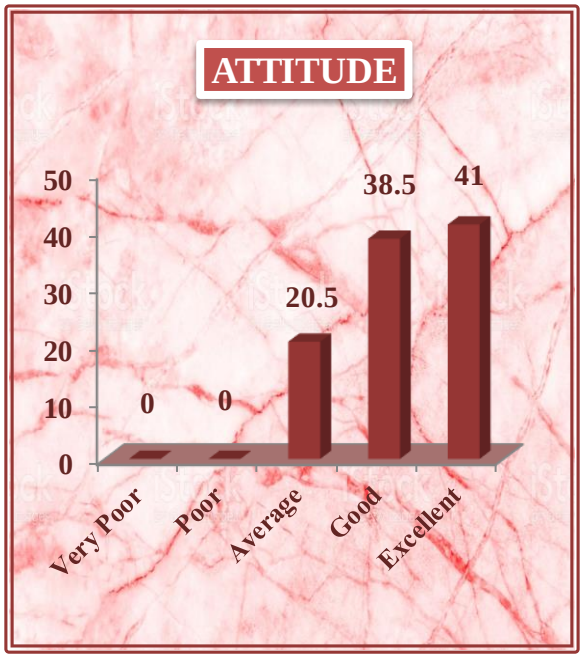

Fig. 3. Attitudes of the Respondents

H. Nutritional Knowledge and Attitude

Table VII. Nutritional Knowledge and Attitude of the Respondents

NUTRITIONAL KNOWLEDGE AND ATTITUDE	N	MEAN	SD	t value	df	Sig. P value
	127	42.80	5.92			
Male	76	42.35	6.01			
Female	51	43.47	5.77	1.04	125	0.2976

Table VII shows that the nutritional knowledge and attitude of the subject vary from 22 and 52. There was no significant difference in the nutritional knowledge and attitude of the males (m=42.35, SD=6.01) and females (m=43.47, SD=5.77); t (125)=1.04,p=0.297. The nutritional knowledge and attitude was further divided into five categories such as very poor, poor, average, good and excellent.

Table VII (a)

SL NO:	RATING SCALE	N	PERCENTAGE
1	**0-12 - Very Poor**	**0**	**0**
2	**12-24 - Poor**	**1**	**0.8**
3	**24-36 - Average**	**9**	**7.1**
4	**36-48 - Good**	**79**	**62.2**
5	**48-60 - Excellent**	**38**	**29.9**

Table VII (a) shows that no one was categorised as very poor, 0.8% were a poor category, 7.1% were average, majority of them were categorised as good (62.2%) and 29.9% were excellent. Genderwise difference was not significant. Mean scores were just slightly lower for males (m=42.35, SD=6.01) than females (m=43.47, SD=5.77). There were no significant differences between male and female respondents. Fig. 4 shows the graphical representation of the nutritional knowledge and attitude of the respondents.

CONCLUSION

Nutrition knowledge and attitudes of the physical education students will help in the high level of interest in nutrition in nutrition and a desire for more information. It was also noted that the students with prior nutrition education have higher nutrition knowledge and attitude scores but do not always apply this knowledge. Indeed, it may also be noted that they may be more inclined to eat right if provided with appropriate information.

To be effective, nutrition education should focus on communicating information to influence behaviour. A clear understanding of how nutrition applies to them also enables them

to personalise their eating plan, rather than simply follow general guidelines recommended.

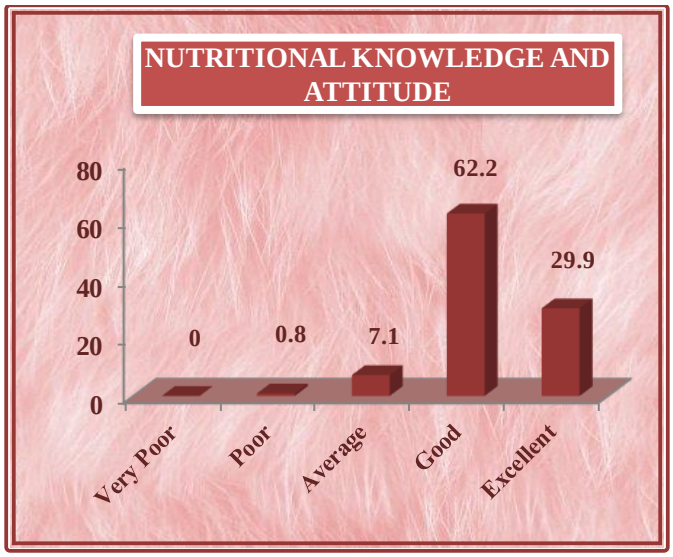

Fig. 4. Nutritional Knowledge and Attitude of the Respondents.

There is always a notion that new knowledge is most effectively acquitted when it is linked to concepts that the learner knows and believes are most important. Coaches are also important in connecting with the athlete's overall concept of nutrition, and they can influence an athlete's eating habits.

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