

## **Nutritional Awareness Among Physical Education Teachers And Coaches: A Descriptive Study**

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### **Abstract**

The purpose of this study was to examine nutritional awareness among physical education teachers and coaches. For this study 44 Subjects were chosen. 22 Coaches who possess diploma in sports coaching and 22 Physical education teachers who possess at least master in physical education degree was chosen for this study. Purposive and convenience under non- Probability sampling technique was used for selection of subjects of the study. Self-made Questionnaire was used for data collection from subjects. A questionnaire comprising of 20 items and content validation was done by expert in nutrition. For data analysis mean and standard deviation were calculated through SPSS version 20 and t test was applied to compare the results. The level of significance was set at 0.05. No significant difference was observed in nutrition awareness between physical education teachers and coaches.

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### **Introduction**

Sport pertains to any form of competitive physical activity or game that aims to use, maintain or improve physical ability and skills while providing enjoyment to participants and, in some cases, entertainment to spectators. Sports can, through casual or organized participation, improve one's physical health ("Sports", 2021). Food is any substance consumed to provide nutritional support for an organism. Life is based on food and food is based on combination of macronutrients and micronutrients, like fat, carbohydrate, protein, vitamin and minerals (Borgsteijn, 2019). At the most basic level, nutrition is important for athletes because it provides a source of energy required to perform the activity. The food we eat impacts on our strength, training, performance and recovery. Not only is the type of food important for sports nutrition but the times we eat throughout the day also has an impact on our performance levels and our body's ability to recover after exercising (The Importance of Sports Nutrition, n.d.).

Athletes and professional coaches are more aware than ever before of the importance of nutrition in sport. While there is an array of factors that contribute to an athlete's overall performance in their chosen sport, food is a critical piece to the puzzle, providing the energy needed (Borgsteijn, 2019). Nutrition is an important component of any physical fitness program. The main dietary goal of active individuals is to obtain adequate nutrition to optimize their health and fitness or sports performance. Athletes may often rely on coaches for nutrition guidance in certain sports (Ozdogan and Ozcelik, 2011).

However, there have been few studies assessing nutritional knowledge, attitudes and practices of male athletes, female athletes, trainers and coaches. The purpose of these studies was to assess the dietary composition and nutrient intake and compare with RDA (Recommended Dietary Allowances) and also to evaluate the nutritional knowledge of the selected sportsmen or trainers or coaches. But no comparative study between physical education teacher or coaches was found about nutrition knowledge. Knowledge about Nutrition is a must have for all physical education teachers and coaches because they are related with participation aspect of the players and sports nutrition plays a vital role in performance of players. Nutrition knowledge is an important tool in assessing the nutrition status of an athlete, individual, group. The purpose of this study was to find out the prevalence of awareness about nutrition among physical educational teachers or level coaches.

### **Objective**

To assess the difference of nutritional knowledge between physical education teachers and coaches.

### **Hypothesis**

There may not be a significance difference between Physical Education teachers and Coaches.

### **Method & Procedure**

#### **Sampling**

For this study 44 Subjects were chosen. 22 Coaches who possess diploma in sports coaching and 22 Physical education teachers who possess at least master in physical education degree was chosen for this study. Purposive and convenience under non- Probability sampling technique was used for selection of subjects of the study.

#### **Tool of data collection**

Self-made Questionnaire was used for data collection from subjects. A questionnaire comprising of 20 items and content validation was done by expert in nutrition.

#### **Statistical Analysis**

The statistical technique applied in order to examine the hypothesis of the study was, descriptive statistics analysis like mean and standard deviation software SPSS (ver.22) was used for analysing the collected data mean, standard deviation and t-test was applied to examine the comparison of nutritional knowledge between physical education teachers and coaches. For testing the hypothesis, the level of significance was set at 0.05 level.

## Result

The objective of this study to assess the difference of nutritional knowledge between physical education teachers and coaches.

**Table 4.1 Difference of nutritional awareness among physical education teachers and coaches**

Nutritional Awareness	Number of Subjects (N)	Mean (M)	Standard Deviation (SD)	(t) Value	(P) Value
Physical Education Teachers	22	28.04	6.27	0.04	0.94
Coaches	22	27.95	7.10		

Not Significant at 0.05 level

The table 4.1 Shows mean and standard deviation of nutritional awareness among physical education teachers and coaches. It was found that mean of physical education teachers were 28.04 and standard deviation of physical education teachers were 6.27 respectively. The mean of coaches was 27.95 and standard deviation of coaches were 7.10 respectively in their nutrition awareness. Calculated t-value which was 0.94 which shows no significant difference exist between physical education teacher and coaches on the variable nutritional awareness. Mean score of physical education teachers is higher in comparison of coaches but there was no significant difference found between physical education teachers and coaches.

**Figure 4.1 Difference of nutritional awareness among physical education teachers and coaches**

**Table 4.2 Difference of nutritional awareness percentage among physical education teachers and coaches**

SL	Statement	Percentage (%) of correct answers	
		Physical Education Teachers	Coaches
1.	Do you think these foods are high or low in carbohydrate? (Check <u>one</u> box per food).		
1.1	Chicken	72.72	63.63
1.2	Baked beans	50	54.54
1.3	White bread	63.63	59.09
1.4	Butter	27.27	40.90
2.	Do you think these foods are high or low in protein? (Check <u>one</u> box per food).		
2.1	Chicken	81.81	77.27
2.2	Baked beans	77.27	54.54
2.3	Fruit	68.18	68.18
2.4	Peanuts	72.72	72.72
3.	Do you think these foods are high or low in fat? (Check <u>one</u> box per food).		
3.1	Avocado	31.81	22.72
3.2	Pasta	31.81	27.27
3.3	Oatmeal	81.81	72.72
3.4	Honey	81.81	68.18
4.	Do you think these foods are high or low in saturated fat? (Check <u>one</u> box per food).		
4.1	Butter	72.72	81.81
4.2	Chocolate	77.27	72.72
4.3	Whole milk	40.90	59.09
4.4	Peanuts	50	59.09
4.5	Salmon	40.90	63.63
5.	The following foods contain cholesterol. (Check <u>one</u> box per food).		
5.1	Egg	54.54	45.45
5.2	Fish	40.90	22.72
5.3	Whole milk	40.90	50
5.4	Red meat	81.81	68.18
6.	Would you agree or disagree with the following statements? (Check <u>one</u> box per statement).		
6.1	A high carbohydrate diet helps to reduce protein breakdown in the body.	36.36	50
6.2	Tannins in tea decrease the amount of iron absorbed from food.	45.45	40.90

6.3	Spinach and chard are good sources of iron that is available to the body.	18.18	13.63
6.4	Ascorbic acid (Vitamin C) increases the amount of iron absorbed from food.	68.18	72.72
7.	Would you agree or disagree with the following statements? (Check <u>one</u> box perstatement).		
7.1	There is more protein in a glass of whole milk than in a glass of non-fat milk.	45.45	22.72
7.2	There is more calcium in a glass of whole milk than in a glass of non-fat milk.	45.45	31.81
7.3	Calcium is easily obtained in the diet through green leafy vegetables.	45.45	18.18
7.4	If someone wanted to cut down on fat, but didn't want to give up French fries, choosing baked French fries would be a better choice than fried French fries.	72.72	50
8.	Would you agree or disagree with the following statements? (Check <u>one</u> box perstatement).		
8.1	Fluid loss of only 2% of body weight can reduce your performance by up to 20%.	59.09	72.72
8.2	Weighing players before and after training would be a good way to determine each individual's fluid requirements.	45.45	86.36
8.3	The best advice to give to a player about fluid during a training session would be to drink when theyare thirsty.	54.54	54.54
8.4	Fruit juice is a good fluid to have during a training session and at half time of a game.	40.90	31.81
8.5	Energy drinks such as Monster and 'Red Bull' are good drinks to have 30 minutes leading up to exercise.	40.90	36.36
9.	Do you agree or disagree with the following statements? (Check <u>one</u> box per statement.)		
9.1	For lean muscle mass gain to occur, protein is the most important nutrient to increase in the diet.	13.63	18.18

9.2	Protein powder is an essential product to have if you want to increase lean muscle mass.	36.36	22.72
10.	If a rugby player wanted to lose weight, they should:		
10.1	Exchange 1 tsp of butter on sandwiches for 1 tsp of regular margarine.	22.72	22.72
10.2	Stop eating pasta and rice after 4pm.	22.72	27.27
11.	Do you agree or disagree with the following statements? (Check <u>one</u> box per statement).		
11.1	Creatine supplement would be most beneficial to a player wanting to increase peak power output.	90.90	81.81
11.2	Creatine supplement has more of an effect when natural body stores are low.	63.63	77.27
11.3	The performance-enhancing mechanism of creatine is that it aids to increase fat metabolism.	40.90	22.72
11.4	Creatine is most useful to those players wanting to increase fitness for endurance exercise.	27.27	27.27
12.	Do you agree or disagree with the following statements? (Check <u>one</u> box per statement).		
12.1	Multivitamin tablets should be taken by most athletes.	13.61	27.27
12.2	Iron tablets should be taken when a player feels extremely tired and is pale.	9.09	18.18
12.3	Vitamin C should be routinely supplemented by athletes.	18.18	27.27
12.4	B vitamins should be taken when feeling low in energy.	22.72	22.72
13.	Do you agree or disagree with the following statements? (Check <u>one</u> box per statement)		
13.1	The main performance-enhancing effect of hydroxy-methyl butyrate (HMB) is that it helps to breakdown body fat during exercise.	13.63	13.63
13.2	Salt tablets should be used for players that get a cramp during exercise.	9.09	18.18
13.3	Appetite suppressants (i.e., thermogenic tablets) are recommended to be taken by athletes when weight loss is a goal.	36.36	36.36
14.	In a two-hour intense training session, the <u>optimum</u> amount	40.90	50

	<p>of fluid needed during this session is approximately:</p> <p>A. 12-20 ounces water/0.355-0.591 Litter</p> <p>B. 24-64 ounces water/0.71-1.893 Litter</p> <p>C. 48-128 ounces water/1.42-3.785 Litter</p> <p>D. Unsure</p>		
15.	<p>The following drink is <u>not</u> a sports drink:</p> <p>A. Vitamin water</p> <p>B. Gatorade</p> <p>C. Restore</p> <p>D. Unsure</p>	27.27	45.45
16.	<p>The percentage of carbohydrate in a 'sports drink' should be:</p> <p>(Check <u>one</u> box only).</p> <p>A. 4-8%</p> <p>B. 8-10%</p> <p>C. 10-15%</p> <p>D. 20-25%</p>	22.72	27.27
17.	<p>Which is the most appropriate fluid to consume <u>after</u> a two-hour training session? (Check <u>one</u> box only).</p> <p>A. Fruit juice</p> <p>B. Sports drink</p> <p>C. Coke</p> <p>D. Water</p>	36.36	45.45
18.	<p>Which of these is the most accurate definition of the term 'Glycemic index'? (Check <u>one</u> box only.)</p> <p>A. The amount of carbohydrate a food contains</p> <p>B. The extent to which carbohydrate food raises blood sugar levels</p> <p>C. The extent to which protein food raises blood sugar levels</p>	63.63	36.36



	D. The extent to which carbohydrate food raises blood pressure		
19.	<p>A player is eating the following meal for dinner: <u>½ cup skinless chicken breast, 1 cup cooked rice and 2 cups vegetables (broccoli, carrots, cauliflower)</u>. If he kept the rest of his day's diet the same and only altered his dinner meal, which option would be the preferred one to increase his lean body mass?</p> <p>(Check <u>one</u> box only)</p> <p>A. Eat the chicken with the skin on.</p> <p>B. Eat 2 cups rice and ¾ cup skinless chicken.</p> <p>C. Eat 4 cups vegetables</p> <p>D. Eat the same amount, but train harder at the gym.</p>	31.81	22.72
20.	<p>If a player was trying to lose weight and they had the following snacks to choose from for breakfast, which <u>one</u> of each of the following set of two snacks should they choose? (Check <u>one</u> box for each question a-e).</p>		
20.1	A. 4 salami sticks OR B. 1 piece fruit	68.81	68.81
20.2	A. 2 bags of chips OR B. 1 cereal bar	68.81	72.72
20.3	A. 1 small can cream rice OR B. 1 large chocolate bar	63.63	72.72
20.4	A. ½ cup peanuts OR B. 1 Primo chocolate milk	22.72	45.45
20.5	A. 1 yogurt OR B. 1 croissant with egg salad	63.63	59.09

The table 4.2 Shows of nutritional awareness among physical education teachers and coaches. The first statement about knowledge of carbohydrates SL (1). In question no. (1.1) 72.72% physical education teachers and 68.68% coach's answer were correct. In question no. (1.2) 50% physical education teachers and 54.54% coach's answer were correct. In question no. (1.3) 63.63% physical education teachers and 59.09% coach's answer were correct. In question no. (1.4) 27.27% physical education teachers and 40.90% coach's answer were correct. The Second statement about knowledge about protein SL (2). In question no. (2.1) 81.81% physical education teachers and 77.27% coach's answer correct. In question no. (2.2) 77.27% physical education teachers and 54.54% coach's answer were correct. In question no. (2.3) and (2.4) 68.18% and 72.72% physical education

teachers and 68.18% and 72.72% coach's answer were correct. The third statement about fat SL (3). In question no. (3.1) and (3.2) 31.81% physical education teachers and 22.72% and 27.27% coach's answer were correct. In question no. (3.3) and (3.4) 81.81% physical education teachers and 72.72% and 68.18% coach's answer were correct. The 4<sup>th</sup> statement about saturated fat SL (4). In question no. (4.1) and (4.2) 72.72% and 77.27% physical education teachers and 81.81% and 72.72% coach's answer were correct. In question no. (4.3), (4.4) and (4.5) 40.90%, 50% and 40.90% physical education teachers and 59.09%, 59.09 and 63.63% coach's answer were correct. The 5<sup>th</sup> statement about cholesterol SL (5). In question no. (5.1), (5.2), (5.3) and (5.4) 54.54%, 40.90%, 40.90% and 81.81% physical education teachers and 45.45%, 22.72%, 50% and 68.18% coach's answer were correct. The 6<sup>th</sup> and 7<sup>th</sup> statements about nutrients SL (6) and SL (7). In question no. (6.1), (6.2), (6.3) and (6.4) 36.36%, 45.45%, 18.18% and 68.18% physical education teachers and 50%, 40.90%, 13.63% and 72.72% coach's answer were correct. In question no. (7.1), (7.2), (7.3) and (7.4) 45.45%, 45.45%, 45.45% and 72.72% physical education teachers and 22.72%, 31.81%, 18.18% and 50% coach's answer were correct. The 8<sup>th</sup> statement about fluid SL (8). In question no. (8.1), (8.2), (8.3), (8.4) and (8.5) 59.09%, 45.45%, 54.54%, 40.90% and 40.90% physical education teachers and 72.72%, 86.36%, 54.54%, 31.81% and 36.36% coach's answer were correct. The 9<sup>th</sup> statement about weight gain SL (9). In question no. (9.1), (9.2) 13.63% and 36.36% physical education teachers and 18.18% and 22.27% coach's answer were correct. The 10<sup>th</sup> statement about weight loss SL (10). In question no. (10.1), (10.2) 22.72% physical education teachers and 22.72%, 27.27% coach's answer were correct. The 11<sup>th</sup>, 12<sup>th</sup> and 13<sup>th</sup> statements about supplement SL (11), SL (12), and SL (13). In question no. (11.1), (11.2), (11.3) and (11.4) 90.90%, 63.63%, 40.90% and 27.27% physical education teachers and 81.81%, 77.27%, 22.72%, 27.27% coach's answer were correct. In question no. (12.1), (12.2), (12.3) and (12.4) 13.61%, 9.09%, 18.18% and 22.27% physical education teachers and 27.27%, 18.18%, 27.27% and 22.72% coach's answer were correct. In question no. (13.1), (13.2) and (13.3) 13.63%, 9.09 and 36.36% physical education teachers and 13.63%, 18.18% and 36.36% coach's answer were correct. The 14<sup>th</sup>, 15<sup>th</sup>, 16<sup>th</sup> and 17<sup>th</sup> statements about fluid SL (14), (15), (16) and (17). In question no. (14), (15), (16) and (17) 40.90%, 27.27%, 22.72% and 36.36% physical education teachers and 50%, 45.45%, 27.27% and 45.45% coach's answer were correct. The 18<sup>th</sup> statement about recovery SL (18). In question no. (18) 63.63% physical education teachers and 36.36% coach's answer were correct. The 19<sup>th</sup> statement about weight gain SL (19). In question no. (19) 31.81% physical education teachers and 22.72% coach's answer were correct. The 20<sup>th</sup> statement about weight loss SL (20). In question no. (20.1), (20.2), (20.3), (20.4) and (20.5) 68.81%, 68.81%, 63.63%, 22.72% and 63.63% physical education teachers and 68.81%, 72.72%, 72.72%, 45.45% and 59.09% coach's answer were correct. All over 46.74% physical education teachers and 46.59% coach's answer were correct.

## Discussion & conclusion

The statistical results showed no significant difference exist between physical education teacher and coaches on the variable nutritional awareness. Mean score of physical education teachers is higher in comparison of coaches but there is no significant difference found between physical education teachers and coaches. In this study was examine that only 46.74% physical education teachers and 46.59% coaches had knowledge about nutrition. Results of this study was shown that physical education teachers and coaches did not have adequate nutritional knowledge.

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