NUTRITIONAL KNOWLEDGE AND DIETARY HABITS AMONG COLLEGIATE ATHLETES AND NON-ATHLETES IN LETRAN MANILA

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ABSTRACT

This study focuses on the assessment of the nutritional knowledge, dietary habits, sociodemographic information and anthropometric data of the selected collegiate athletes from volleyball, taekwondo, track n' field, table tennis, lawn tennis, swimming and badminton and collegiate non-athletes within the age bracket of 19-24 years old, and to develop nutritional guidelines for athletes, only. This present study aims to evaluate the nutrition knowledge and dietary habits of the collegiate athletes and non-athletes. Specifically, to assess the anthropometric data, compare the nutrition knowledge and dietary habits of the collegiate athletes and non-athletes and develop a nutrition guidelines booklet that focuses on nutritional needs of the collegiate athletes. The number of respondents were 148 students composed of 74 collegiate athletes (37 male and 37 female) and 74 collegiate non-athletes (37 male and 37 female). The gathered anthropometric data includes the weight, height and body mass index or BMI. A questionnaire was used to gather the data of the socio-demographic information, dietary habits and nutritional knowledge of the respondents. Non-athletes (48.19±4.01) had higher means score than athletes (46.08±4.10) which considered as statistically significant (p<0.05). Collegiate non-athletes (87.70±4.26) has the higher nutrition knowledge than athletes (83.66±8.28) which were considered has high significant difference (p<0.05). The results revealed that the collegiate non-athletes has better nutrition knowledge and dietary habits than the collegiate athletes both female and male in Letran-Manila. Proper counselling with nutrition experts and monitoring of nutrition status and dietary needs of the athletes should be done throughout the year not just prior to competition, it must be before, during and after the intense training and exercise of the athletes either by the sports nutritionist or nutrition experts of the college.

Keyword: *Nutritional Knowledge, Dietary Habits, Non-collegiate athletes, collegiate athletes*

INTRODUCTION

Nutrition is a significant factor of any physical health program (Trabucco, Nikoic & Mirkovic, 2013). At the basic level, it plays a vital role in attaining and maintaining a healthy body. Furthermore, nutrition is important to acquire the maximum athletic performance of an active individual (Botsis & Holden, 2015). The dietary goal of these active individuals is to acquire adequate nutrition for optimal health fitness and to proliferate their sports performance. Through optimal nutrition, cases of over fatigue decrease which allow an active person to train and compete longer or regain strength faster between training periods. In addition, according to the American College of Sports Medicine, American Dietetic Association, and Dietitians of Canada (2013), by achieving optimal nutrition, physical activity, athletic performance and recovery from exercise are enhanced. Proper nutrition is also considered as a significant factor to promote healthy dietary practices in the long term for young people who are active in sports.

An individual that is physically fit and active; commonly join in a competition, and mentally proficient is often referred as an athlete. In contrast, the non-athletes individuals are people who are not involved in active physical activities and are those who probably practice a sedentary lifestyle (Sedek & Tan, 2014). In order for an athlete to perform on their maximum competencies, it is essential that the athletes adequately fuel their body to satisfy their nutritional needs. For the past 20 years, the influence of nutrition that gives benefits to the athletes in their athletic performance has been irrefutably documented by research (Havermale, 2017). Moreover, in the past few years, the enlargement of science-based knowledge connected to nutrition and its potential effects on the performance of an athlete has been studied (Madrigal, Wilson & Burnfield, 2016) and (Bonfanti & Jimenez-Saiz, 2016) the diet of normal athletes lacks in terms of both universal and specific sports nutritional requirements (Hale, 2013). Therefore, attaining optimum levels of energy and nutrients to provide health and performance is what most of the athletes fail to do (Karpinski & Milliner, 2016).

The athletes can be considered as one of most health-conscious individuals due to their active routine, extreme training and physical demand of their respective sports. On the other hand, even though performance is a main focus for athletes, their nutritional knowledge and dietary habits has also an immense contribution to their success (Montecalbo & Cardenas, 2015). In the study of Dunn, Turner and Denny (2007) in Montecalbo and Cardenas (2015), it stated that the nutrition knowledge of

athletes was limited and their primary needs are the understanding and use of basic nutrition to sports events. Therefore, participating athletes in sports have more complications obtaining basic nutrient needs. Moreover, athletes were more concerned on their physical body image. Athletes from various sports have stated some conflicts in their body image while performing and when trying to achieve and maintain a body weight and shape that allows them to stay competitive (Montecalbo & De Jose, 2012). According to Dixit et al. (2011) in Montecalbo and Cardenas (2015), specified that awareness of the physical and body images is an essential forecaster of nutritional status. Also, information from false sources and non-experts may cause the athlete's confusion, misinformation, misconceptions, and misunderstandings.

Attaining nutritional requirements is significant to human health. These requirements vary specifically for those in distinct and diverse populations such as collegiate athletes. These young individuals have nutrition recommendation that are important in succeeding as an athlete and obtaining full potential in their training and performance. There is an outsized knowledge discrepancy among this population and often times they have misunderstandings and poor sources of nutrition related information. Increasing on this specific group's needs and knowledge insufficiencies will help to show how critical nutrition education is for collegiate athletes (Kiser, 2015). Nowadays, collegiate athletes faced problems in terms of food preparation and food choices caused by their hectic schedules between academics and athletic training. According to the study of Paugh *et al.* (2005) in Montecalbo and Cardenas (2015), nutrient intake was influenced by factors such as absence of time, hectic training schedule and increased importance on physical attributes such as leanness and body image. The additional concern is the athlete's required knowledge to determine which food items to choose. Erratic information acquired by the athletes added to the problem of making poor dietary choices. As stated by Kunkel, Bell, and Luccia (2001) in Montecalbo and Cardenas (2015), as the athletes' nutrition knowledge increases their nutritional quality of food choices also improve. Nutrition knowledge and dietary habits of athletes in terms of gender differences have been studied in various number of researches. The following studies have findings that mostly revealed that female students and athletes had higher nutritional knowledge scores and have better dietary habits and eating attitudes than male. In addition, female athletes and students were more concerned about their nutrition, physical image and health than their male counterpart (Arazi & Hosseini, 2012).

Collegiate athletes often have inadequate diets due to lack of appropriate nutrition knowledge (NK) and consequently poor nutrition behavior (NB) (Heydeinreich, Carlsohn, & Mayer, 2014). Poor diet may also affect the athletic performance, delay recovery from extreme physical activity, and increase susceptibility to injury and illness (Fisher, 2013). Moreover, inadequate energy and protein intake can also lead to skeletal muscle atrophy, reduced strength and power performance, and increased risk of injury, fractures or illness (Rossi, Landreth, Beam, Jones, Norton, et al., 2017). While decreasing the risk of illness or injury, correct food choices and a regular meal pattern can also promote adaptations in muscle and other tissues in response to the training stimulus (Medical and Scientific commission of the International Olympic Committee, 2016). Hence, improving the nutritional knowledge of an athlete may improve their nutritional status which leads to leaner body compositions and boosted performance (Rossi *et al.,* 2017). Energy consumption, nutrient intake, as well as hydration state, areinfluenced by food habits and dietary patterns that are actually important for the athletic performance and fast recovery of the athletes (Shriver, Belts & Wollenberg, 2013). The proper intake of energy requirements, appropriate exercise, and correct dietary habits will be carried on to adulthood and is equivalent to the presence of physical activity where the risk of improper lifestyle can be reduced (Meyer, O'Connor, & Shirreffs, 2007 in Galanti, Stefani, Scacciati, Mascherini & Buti, 2015) and (Moss, 2013).

Balance and adequate diet should not only provide the required calories to obtain the daily energy needs but it must also meet the necessary vitamins and mineral requirements. Specifically, during times of extreme physical activity, an adequate and balanced diet should ensure that the energy and macro- and micronutrient needs are met to maintain the body weight, replenish glycogen stores, provide adequate protein to build and repair tissues, and provide essential fatty acids and fat-soluble vitamins (Waly, Kilani & Al-Busafi, 2013). Substantial evidence ideas concerning the lack of knowledge of athletes in regards to their required nutritional practices are using drugs or medicine to escalate the duration of performance during training and competition, unregulated intake of protein supplements, amino acid supplements, pseudo-vitamins (inositol, carnitine, and lecithin), vitamins and mineral supplements, and drinking sports drinks (Waly, Kilani & Al-Busafi, 2013). Rosenbloom, Jonnalagadda, and Skinner (2002) in Botsis, and Holden, (2015) specified that athletes have lots of misunderstandings regarding the function of carbohydrates, protein, fats, vitamins, and minerals.

This study aims to evaluate the nutrition status particular height, weight and body mass index (BMI), nutrition knowledge and dietary habits of the collegiate athletes and non-athletes of Letran-Manila. Specifically, to assess the anthropometric data, compare the nutrition knowledge and dietary habits of the collegiate athletes and non-athletes and develop a nutrition guidelines booklet that focuses on nutritional needs of the collegiate athletes. The significance of the study is to plan a possible nutrition health programs for the athletes in various sports at Letran-Manila and to assist the Letran's athletic office in order to obtain the nutrition requirements that will help to improve the nutrition knowledge, dietary habits, and performance of the athletes in their respective sports.

The scope and limitations of this study are the assessment of the nutritional knowledge, dietary habits, sociodemographic information and anthropometric data of the selected collegiate athletes from volleyball, taekwondo, track n' field, table tennis, lawn tennis, swimming and badminton and collegiate non-athletes in the age bracket of 19-24 years old, and to develop nutritional guidelines for athletes, only.

METHOD

Sampling and Location

A cross sectional study was done in evaluating the collegiate athletes and collegiate non- athletes students of Letran-Manila. The number of respondents were one hundred forty-eight (148) students composed of seventy-four (74) collegiate athletes (37 male respondents and 37 female respondents) and seventy-four (74) collegiate non-athletes (37 male respondents and 37 female respondents, respectively). The collegiate athletes are chosen from selected sports in Letran-Manila particularly volleyball, taekwondo, track n' field, table tennis, lawn tennis, swimming and badminton. While the non-athletes collegiate students were selected randomly within Letran-Manila campus (Montecalbo and Cardenas, 2015). The respondents were selected within the age bracket of 19 years old to 24 years old. This study was conducted within the school premises, only.

Data Gathering

The gathered anthropometric data includes the weight, height and body mass index or BMI. The height was measured using the stadiometer provided by the nutrition clinic, to the nearest 0.5 cm; weight was measured by the digital weighing scale also provided by the nutrition clinic. The body mass index or BMI was calculated by weight in kilograms (kg) divided by height in meter squared (m²). The BMI of the respondents were classified based on WHO (1998) which stated that BMI less than 18.5 (kg/m²) was considered as underweight; 18.5 to 24.9 (kg/m²) as normal; 25.0 to 29.9(kg/m²) as overweight and BMI above 30.0 (kg/m²) as obese (Sedek & Tan, 2014).

A questionnaire was used to gather the data of the socio-demographic information of the respondents which includes sex, age, program, and academic year. It was also used to determine the type of sports. This questionnaire was based from the study of Montecalbo and Cardenas (2015) approved by the California University of Pennsylvania. The dietary questionnaire was patterned from Marino (2001) in Sedek and Tan (2014) which composed of 18 questions, including the frequency of food intake from every section of the food pyramid snack, vitamin and mineral supplementation, fast food, beverage intake, breakfast and meal skipping (Sedek and Tan, 2014). The answer for this section were evaluated by 'always' (4), 'often' (3), 'sometimes' (2) and 'never' (1).

Answers on questions 2-4, 8-9, 14-15, and 17 were reversed so that if the respondent answered the question with 1, then the respondent was given 4 as the answer. Nevertheless, all other questions were scored according to their respective values. The higher the scores, the better the dietary habits of the respondents. The range of scores was 18-72 (Sedek and Tan, 2014). Nutrition knowledge questionnaire was modified from Paugh (2005) in Sedek and Tan (2014) which composed of 29 questions. The respondents were asked to choose an answer based on the level of agreement in each statement. The selections included 'strongly agree' (4), 'agree' (3), 'disagree' (2) and 'strongly disagree' (1). Questions 2, 6, 8, 20 and 29 were scored reversely, whereas all other questions were scored equally to their respective values. The range of scores was 29-116. Nutrition knowledge was classified as 'excellent' (99-116), 'good' (81-98), 'fair', (64-80) and 'poor', (≤63) (Montecalbo and Cardenas, 2015). Another question that must be answered by respondents was the source of their nutrition information. The choices of nutrition information sources included coaches, televisions, newspapers/magazines, trainer, parents and others (Montecalbo and Cardenas, 2015).

Statistical Analysis

All of the data gathered were analysed and evaluated using Statistical Package for Social Sciences (SPSS) 19.0 (SPSS Inc., Chicago, IL). Descriptive test, independent t-test and Pearson correlation test were used in this study. Descriptive statistics were generated as frequencies, means, standard deviations and percentage for all of the variables. Independent t-test was used to determine the difference in mean of anthropometric data measurements (weight and height), dietary habits and nutrition knowledge between collegiate athletes and collegiate non-athletes, as well as between male and female for either collegiate athletes or collegiate non-athletes. Pearson correlation test was used to determine the relationship between dietary habits and nutrition knowledge. The significance level was set at p<0.05 for all of the analysis (Sedek and Tan, 2014).

Formulation of Nutrition Guidelines

All of the results in the study were the basis on the formulation of the nutritional guidelines for the collegiate athletes of Letran-Manila. The portion of foods and requirements for the macro- and micronutrients were based on the PinggangPinoy and Philippine Dietary Reference Intake (PDRI). The PDRI and PinggangPinoy recommendations were calculated using the mean height, weight, age and physical activity level of the collegiate athletes (heavy = 45). The calculated requirements were different for the male and female athletes. The sample menu for male and female collegiate athletes was based on the said recommendations and calculation.

RESULTS AND DISCUSSION

In a total of 148 respondents consisting 74 collegiate athletes (37 female and 37 male) and 74 collegiate non-athletes (37 female and 37 male) within the age bracket of 19-24 years old (Table 1) from Letran-Manila. Most of the respondents were within the age of 19 years old (54.05 %) followed by 20 years old (26.35 %), 21 years old (11.49 %), then 22, 23, and 24 years old (5.41 %, 2.03 % and 0.68 %, respectively). In the Table 1 (Demographic characteristics of the Respondents) the respondents composed majority of 3rd year college students (48.65 %) followed by 4th year (42.57 %), then 2nd year (4.73 %), 5th year (3.38 %) and 1st year (0.68 %). All of the athlete respondents have not yet taken any nutrition courses while 8 (10.81%) of non-athlete respondents has already taken or attended nutrition course or seminar. The athlete respondents included in the study were from volleyball (33.78 %), table tennis (18.92 %), badminton (13.51 %), taekwondo (13.51 %), track n' field (12.16 %), lawn tennis (5.41 %) and swimming (2.70 %).

Table 1. Demographic Characteristics of the Respondents

Demographic Profile	No. of Respondents (n=148)	Percentage
Sex		
Male	74	50.00%
Female	74	50.00%
Age		
19	80	54.05%
20	39	26.35%
21	17	11.49%
22	8	5.41%
23	3	2.03%
24	1	0.68%
Year in College		
1st	1	0.68%
2nd	7	4.73%
3rd	72	48.65%
4th	63	42.57%
5th	5	3.38%
Nutrition Course (Seminar, Expo etc.)		
Athletes		
Yes	0	0.00%
No	74	100.00%
Non-athletes		
Yes	8	10.81%
No	66	89.19%
All respondents		
Yes	8	5.41%
No	140	94.59%

Sports (Athlete Respondents) Male=37; Female=37; n=74

Volleyball	25	33.78%
Table Tennis	14	18.92%
Badminton	10	13.51%
Taekwondo	10	13.51%
Track n' Field	9	12.16%
Lawn Tennis	4	5.41%
Swimming	2	2.70%

The figure 1 shows the percentage of the collegiate athletes and non-athletes based on their source of information of nutrition knowledge. In collegiate athlete respondents, coach has the highest percentage (32.43%), followed by athletic trainer (25.68%), parents (18.92%), TV (9.45%), internet (5.41%), magazine and clinic (4.05%), respectively. The top three sources of information are similar to the study of Montecalbo and Cardenas (2015). For the result of the non-athletes, parents have the highest percentage (27.7%) followed by internet (22.97%), then TV (17.57%), magazine (14.86%), athletic trainer (13.51%) and coach (4.05%). The results showed that the answers of the respondents were based on whom or where they spend most of their time. The athlete respondents showed that the highest source of their nutrition knowledge was from their coaches and athletic trainer whom they spend most of their time during training while for the non-athlete respondents were parents and internet. These results were similar in the study of Jacobson et al (2001) cited in Sedek and Tan (2014), which identified that the primary source of nutrition information are parents, internet, TV and magazines and with a few percentage selected nutrition experts or professionals (10%).
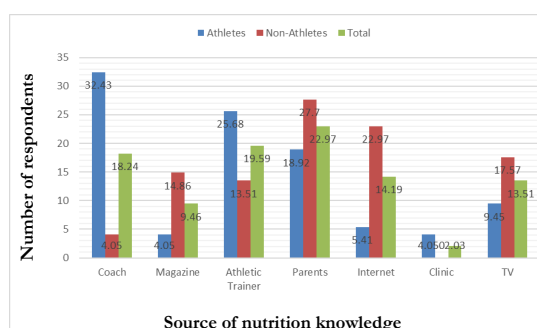

Figure 1. Source of Information of Nutrition Knowledge (n=147); 74 athletes; 74 non-athletes

In table 2, it shows the anthropometric data characteristic of the respondents according to their sex and group. The results in relation to weight was not statistically significant even though the male athletes (65.23±10.25) has higher result than male non-athletes (64.46±11.15), while female non-athletes (54.47±9.02) showed a slight higher result than female athletes (54.21±6.67), there was no statistical significance among

the groups (p<0.05). The results with regards of height and body mass index also showed no statistical significance between male athletes and male non-athletes and between female athletes and non-athletes. These results showed that collegiate athletes and non-athletes has no difference in relation to their anthropometric data which supported by the study of Sedek and Tan (2014), who stated that the weight, height and body mass index of the collegiate athletes and non-athletes has no statistical difference according to sex.

Table 2. Anthropometric Data of the Respondents According to Sex

Anthropometric Data	Mean SD				
	Male (m=74)		Female (f=74)		
	Athletes (n=37)	Non-athletes (n=37)	Athletes (n=37)	Non-athletes (n=37)	Total (N=148)
Weight (kg)	65.23±10.25	64.46±11.15	54.21±6.67	54.47±9.02	59.64±10.68
Height (m)	1.65±0.06	1.69±0.06	1.59±0.06	1.57±0.07	1.63±0.07
Body Mass Index (BMI) (kg/m²)	23.89±3.54	22.49±2.75	21.75±2.65	21.70±2.91	22.46±3.08

*m=Male; f=Female

Table 3. Body Mass Index (BMI) Classification Based on Sex and Group

Classification of BMI (kg/m²)	Male (n=74)				Female (n=74)				Total (N=148)	
	Athletes (n=37)		Non-athletes (n=37)		Athletes (n=37)		Non-athletes (n=37)			
	N	%	N	%	N	%	N	%	N	%
Underweight	1	2.7	1	2.7	3	8.11	2	5.4	7	4.73
Normal	25	67.57	32	86.49	30	81.08	31	83.38	118	79.73
Overweight	9	24.32	3	8.11	4	10.81	3	8.11	19	12.84
Obese	2	5.4	1	2.7	-	-	1	2.7	4	2.7

*m=Male; f=Female

Table 3 shows the percentage of the respondents based on the classification of body mass index (kg/m²) categorized according to sex and group. Based on the body mass index of classification of WHO (2000), 79.73% (118) of the total number of respondents were classified as normal (18.5-24.99 kg/m²), followed by overweight with 12.84 % (19), underweight with 4.73% (7) and obese with 2.70% (4). Male and female non-athletes have the highest percentage of normal BMI classification with 86.49% (32) and 83.38% (31), respectively, followed by female athletes with 81.08% (30). Male athletes have the lowest percentage of normal BMI with 67.57% (25). The results also showed that athletes both male and female had higher percentage of overweight (24.32% and 10.81%) than non-athletes both male and female (8.11%). Also, female athletes have the highest percentage of underweight (8.11%), followed by female non-athletes (5.40%) and male athletes and non-athletes (2.70%). The results indicated that non-athlete respondents have better body mass index classification than athlete respondents in Letran-Manila. These results oppose the study of Sedek and Tan (2014) where the

athlete respondents showed better BMI classification than non-athlete respondents.

Table 4. Dietary Habits of Collegiate Athletes and Non-athletes of Letran-Manila

Groups	Number of Respondents	Mean±SD	P value
Sex			
Male	74	47.39±4.5	0.473
Female	74	46.88±4.12	
Classification/Group			
Athletes	74	46.08±4.10	0.003
Non-athletes	74	48.19±4.01	
Specific Groups			
Male Athletes	37	45.89±4.20	
Female Athletes	37	46.27±4.65	
Male Non-athletes	37	47.86±3.83	
Female Non-athletes	37	48.51±4.21	
Total	148	47.14±4.33	

The table 4 shows the mean score of the dietary habits of the respondents divided in three categories (sex, classification/group and specific groups). The total number of respondents (148) had a mean score of 47.14±4.33 which considered as fair (not too high, not too low) based on the highest possible score of 72 for dietary habits. Non-athletes (48.19±4.01) had higher means score than athletes (46.08±4.10) which considered as statistically significant (p<0.05). In relation to sex, there were no significant difference between male (47.39±4.5) and female (46.88±4.12) (p<0.05). Also, in specific groups, female non-athletes (48.51±4.21) had the highest mean score and showed significant difference between female and male athletes (45.89±4.20 and 46.27±4.65, respectively). However, female and male non-athletes (48.51±4.21 and47.86±3.83) has no significant difference (p<0.05). The present study showed that the collegiate non-athletes has better dietary habits than the collegiate athletes in Letran-Manila. The results were differed from the study of Arazi and Hosseini (2012) where the athlete respondents has higher results of dietary habits than the non-athletes respondents. But the study is similar to the reported study of Sedek and Tan (2014) where the athletes mean scored was significantly lower than the non-athletes.

Table 5. Nutrition Knowledge of Collegiate Athletes and Non-athletes of Letran-Manila

Groups	Number of Respondents	Mean±SD	P value
Sex			
Male	74	85.49±6.66	0.747
Female	74	85.88±7.11	
Classification			
Athletes	74	83.66±8.28	0.0003
Non-athletes	74	87.70±4.26	
Specific Groups			
Male Athletes	37	83.14±8.05	
Female Athletes	37	84.19±8.58	
Male Non-athletes	37	85.57±4.80	
Female Non-athletes	37	87.84±3.71	
Total	148	85.68±6.16	

Groups	Number of Respondents	Mean±SD	P value
Sex			
Male	74	85.49±6.66	0.747
Female	74	85.88±7.11	
Classification			
Athletes	74	83.66±8.28	0.0003
Non-athletes	74	87.70±4.26	
Specific Groups			
Male Athletes	37	83.14±8.05	
Female Athletes	37	84.19±8.58	
Male Non-athletes	37	85.57±4.80	
Female Non-athletes	37	87.84±3.71	
Total	148	85.68±6.16	

*8(Athletes=74); (Non-athletes=74); (Total=148)

Figure 2. Classification of Nutrition Knowledge of Collegiate Athletes, Non-athletes and Total.

Table 5 shows the means score of the nutrition knowledge of the collegiate athlete and non-athlete respondents separated in to three categories (sex, classification and specific groups). The total number of the respondents (148) had a mean score of 85.68±6.16 which was considered as good based on score range (81-98). Collegiate non-athletes (87.70±4.26) has the higher nutrition knowledge than athletes (83.66±8.28) which were considered has high significant difference (p<0.05). Based on sex, female (85.88±7.11) has slightly higher mean score than male (85.49±6.66) but showed no significant difference (p<0.05). The female non-athletes (87.84±3.71) showed the highest mean score and high significant difference to male and female athletes (83.14±8.05 and 84.19±8.58, respectively) and slightly high to male non-athletes (85.57±4.80). The present found that the collegiate non-athletes of Letran-Manila has better nutrition knowledge than the collegiate athletes which opposed the stated study of Arazi and Hosseini (2012) where the athletes scored higher in nutrition knowledge than the non-athlete respondents. But supported the reported study of Sowell, Ahmed, and Warber (2006) in Sedekand Tan (2014) where it was reported that female non-athletes (23.90±5.73) obtained significantly higher in nutrition knowledge score than male non-athletes (19:10±7.79).
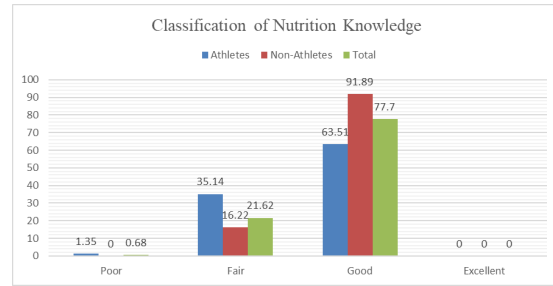
The figure 2 shows the percentage classification of nutrition knowledge of athletes and non-athletes. The total number of respondents showed 'good' (77.70%) as an overall classification of the nutrition knowledge, followed by fair (21.62%), poor (0.68%) and excellent (0%). The results of the total number respondents were directly proportional with the results of collegiate athlete and non-athlete respondents. Non-athlete respondents indicated 91.89% for 'good', 8.11% for fair, 0% for excellent and poor. While the athlete respondents showed 63.51% for fair, 35.14% for good, 1.35% for poor and 0% for excellent. The results clearly showed that the collegiate non-athletes have higher nutrition knowledge than collegiate athletes in Letran-Manila.

Table 6. Correlation between nutritional knowledge and dietary habits of the non-athlete and athletes respondents

Dietary Habits and Nutrition Knowledge	*Non-athletes*	*P value*	*Athletes*	*P value*
	r=0.813	0.00001	r=0.855	0.00001

The table 6 presents the correlation of nutrition knowledge and dietary habits of collegiate non-athletes and athletes in Letran-Manila. The results revealed a strong positive correlation between dietary habits and nutrition knowledge, which means that if the dietary habits scores are high the nutrition knowledge scores are also high and vice versa, both in athletes and non-athletes (r=0.813 and r=0.855, respectively) (p<0.05). Therefore, collegiate athletes and non-athletes who have higher level of nutritional knowledge also have better dietary habits and vice versa. The results of the study supported Paugh (2005) in Montecalbo and Cardenas (2015) who stated that athletes who practice better dietary habits also have a better understanding of nutrition.

CONCLUSION

In conclusion, the present study showed that the collegiate non-athletes have better nutrition knowledge and dietary habits than the collegiate athletes both female and male in Letran-Manila. On the other hand, it was

indicated that there was no significant difference in dietary habits and nutrition knowledge in terms of sex. It also revealed the high positive relationship between dietary habits and nutrition knowledge, vice versa, both in athletes and non-athletes.

RECOMMENDATION

Based on the results of the study, the nutrition knowledge and dietary habits of the collegiate athletes in Letran-Manila, there is a need to constantly promote the significance of having appropriate nutrition information to collegiate athletes because of what they eat and how they eat are the bases of their power, strength and energy which are needed for them to accomplish their daily task and responsibilities as an active individual. Proper counselling with nutrition experts are highly suggested. Moreover, due to lack of nutrition courses for the athletes, attending at any nutrition related seminars and consultations that will be conducted inside the Colegio by the BS Nutrition and Dietetics students will also help them to be knowledgeable and aware of the newest developments in nutrition education. Also, monitoring of nutrition status and dietary needs of the athletes should be done throughout the year not just prior to competition, it must be before, during and after the intense training and exercise of the athletes either by the sports nutritionist or nutrition experts of the college.Further study should be conducted to authenticate the results and to develop the understanding of athletes, and coaches as well in Letran-Manila.

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