



## ❖ SPORT AND PERFORMANCE

### NUTRITIONAL KNOWLEDGE AND PRACTICES OF SELECTED TRACK AND FIELD COACHES AND ATHLETES

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#### Abstract

*Aim.* The study assessed sports nutrition knowledge (SNK) and practices among coaches, trainers and athletes of the CALABARZON Region who participated in the Track and Field competition during the 2012 Palarong Pambansa (National Games).

*Methods.* Through descriptive method the study utilized survey, interview and observation to identify the kinds of food taken by the athletes, knowledge, source of information, influence and practices and this was related to the coaches' knowledge and what role it played in giving education to the athletes.

*Results* show the low score of athletes and coaches in nutritional knowledge as well as the low attention the delegation provides for nutrition as manifested by lone nutritionist assigned to the whole delegation. This study is one of the few that focus on the Track and field as a discipline worth of study as far as Philippine setting is concerned.

*Conclusions.* The results of the study will serve as baseline data for educating coaches, trainers, athletes and other stakeholders in Athletics about nutrition and its effects on athletic performance.

*Key words:* Sport nutrition knowledge, track and field, coaches and athletes, policies.

#### Introduction

Athletics or Track and Field is the centerpiece event in every athletic competitions and it was part of the Ancient and Modern Olympic Games. It involves skills in running, jumping and throwing. In order to have better performance, athletes in the course of history used different methods believing that they will have a better performance. In the ancient times, athletes used lion's heart and deer's liver with the belief it will make them stronger and faster (Applegate & Grivetti, 1997). During the contemporary times, sport nutrition knowledge become a field of interest in Nutrition and many researchers become interested to the subject (Fink et al., 2006)

In the basic education sector in the Philippines which includes the elementary and secondary levels, athletic competition starts in school intramurals followed by district, division and regional meets which culminate in the Palarong Pambansa or (National Games). The Palarong Pambansa serves as venue for talent identification for young athletes as they progress to higher level of competition in the collegiate level.

Proper nutrition plays a vital role in maintaining the health of an athlete. Lack of these will increase the risk of poor performance and injury (Burke & Cox, 2010). In the joint statement of the International Association of Athletics Federations (IAAF), they expressed that the right food choices will help the athlete to increase

their performance and expectations. Good nutrition is also the policies of the Olympic Games as seen in the ways how food was prepared in the athletes' village of the 2000 Sydney Olympics and cultural standards were considered. It was strictly monitored by sports dieticians to ensure the right nutrients in every meal served (Pelly et. al, 2009).

On the researcher's point of view, it was recognized that there are no studies that tackled nutritional knowledge and practices during the Palarong Pambansa. The author being a high school teacher and coach in Track and Field personally witnessed the different training programs and its effects that may be not be productive to the improvement of performance. Through this study it will contribute for the betterment of the overall well-being of the athlete and avoid injuries which are the result of improper nutrition. That's why the purpose of the study is to assess the sport nutritional knowledge and practices of the track and field athletes competed in the 2012 Palarong Pambansa (National Games), Philippines who belonged to the Region IV-A CALABARZON which includes the provinces of Cavite, Laguna, Batangas, Quezon and Rizal. Specific objectives are to provide baseline data of nutritional knowledge based on actual food consumption, attitudes and practices of athletes in food intake, and nutritional knowledge and practices of coaches or trainers. Also is to compare the nutritional

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knowledge and practices of athletes and coaches.

### Methods

The study used descriptive method which includes using survey questionnaire, interviews and direct observation. During the whole tournament, which was held in Lingayen, Pangasinan, Philippines on 21-27-April-2012, athletes and coaches were given survey questionnaire about nutritional knowledge and practices whose content was based on the works of Burkhart (2010) and Zinn (2004). Permission was granted from both authors and because the study was done on a limited time, only through face validity by set of experts was done in order to check the questionnaire. Choices of the questionnaire are yes, no and unsure in order to avoid guessing of the respondents. Survey was given on the start of the tournament and athletes were given instructions and guided by their respective coaches in answering. The forms were retrieved on the last day of competitions. Part of the questionnaire is a 7-day food record that will indicate the kind of food the athletes taken during the tournament. Unfortunately, the food record was not completed due to lack of time of the athletes. Observation in the playing venue and mess hall was done including sending of the questions for interview to the nutritionist from Department of Education (DepEd) Region IV-A CALABARZON. The menu provided was given to an independent Registered Nutritionist-Dietician (RND) for expert opinion. Results of the questionnaire was statistically treated by a student of the University of the Philippines School of Statistics and provided the averages and other values needed for the study.

### Results

There were a total of 28 respondents who participated in the study which is composed of 14 boy athletes, 9 girl athletes, 4 men coach and 1 women coach. Each of the athletes played maximum of 4 events. In terms of education background, there were 10 boys studying in public high schools and 4 from

private institutions. While 4 girl athletes came from public high schools and 5 from private. In terms of the educational background of coaches, only 2 of them were graduates of Physical Education degree 1 each on specialization of behavioral science Technology and Livelihood Education and Filipino, four (4) of them taken graduate studies up to the status of "Completing Academic Requirements" or CAR.

Athletics tournament of the 2012 Palarong Pambansa was held at the Narciso Ramos Sports and Civic Center in Lingayen, Pangasinan, Philippines. Games were done on 6-11-May-2012 from 6:00AM to 9:00AM for morning session and 3:00PM till 6:00PM for afternoon session. Around the playing venue there are different stores selling food and souvenir items. It was noticed that there was a fastfood outlet inside the stadium because the it was one of the sponsors of the competition. Since this food outlet was the nearest in the playing area, there are some athletes who usually bought food in their store which includes hamburgers, hotdog sandwich, French fries and cola. Meanwhile outside the stadium, there is easy access for other food stores which includes convenience store which is located just across the sports complex.

The mess hall of the delegation of Region IV-A CALABARZON is located at the billeting center in Estancia Elementary School which is 10 kilometers away from the stadium. Jeepneys serve as mode of transportation for athletes going to the playing venue and it takes around 30 to 45 minutes under normal conditions to reach the stadium.

Before the start of the games at 6:00PM, athletes were already served their breakfast through buffet form. It was seen that athletes can get only one serving of the food per meal. As the games in the morning session ends at 9:00AM, they usually go back to their mess hall for their lunch and return to the stadium 1-2 hours before the start of afternoon session at 3:00PM. The foods were prepared according to the menu set by the designated Nutritionist-Dietician of the region. The menu used during the tournament is shown in table 1

**Table no. 1-** Menu during the 2012 Palarong Pambansa of CALABARZON Delegation

Breakfast	Pork Tocino (Cured Pork) w/ Tomato	Burger Steak w/ Mushroom Gravy	Beef Tapa (Cured Beef)w/ Red Egg & Tomato	Daing na Bangus w (Dried Milkfish)/ Tomato	Corned Beef  Fried Egg  Steamed Rice
	Fried Egg	Egg			
	Vegetable Rice	Steamed Rice	Fried Egg	Hard Boiled Egg	Hot Chocolate/ Milk
	Hot Chocolate/ Milk	Hot Chocolate/ Milk	Fried Rice	Steamed Rice	
			Hot Chocolate/ Milk	Hot Chocolate/ Milk	



Snacks	Tuna Sandwich	Chicken Sandwich	Egg Sandwich	Hotdog Roll	Ham and Cheese Sandwich
	Juice/Iced Tea	Juice/Iced Tea	Juice/Iced Tea	Juice/Iced Tea	Juice/ Iced Tea
Lunch	Pork Kare-Kare (Pork with fish paste and vegetables)	Sinigang na Bangus (Milkfish in tamarind soup)	Pork Nilaga (Pork meat in broth)	Chicken Tinola (Chicken meat in broth)	Sweet & Sour Fish Fillet
	Fried Fish	Fried Chicken	Grilled Chicken	Fried Fish	Molo Soup(Wanton wrapper soup)
	Rice	Rice	Rice	Rice	Rice
	Fresh Fruits	Fresh Fruits	Fresh Fruits	Fresh Fruits	Fresh Fruits
PM Snack	Spaghetti & Meatballs	Pancit Canton (Stir-fried noodles)	Baked Macaroni	Pancit Bihon (Noodles)	Spaghetti Carbonara
	Bread Toast	Lumpia Shanghai	Garlic Bread	Puto (Rice cake)	Garlic Toast
	Juice/ Iced Tea	Juice/ Iced Tea	Juice/ Iced Tea	Juice/ Iced Tea	Juice/ Iced Tea
Dinner	Egg Noodle Soup	Cream of Mushroom Soup	Pumpkin Soup	Cream of Corn Soup	Noodle Soup
	Pork Menudo	Pork Steak	Chopsuey	Grilled Pork Chop	Beef Caldereta
	Lumpia Shanghai	Sauteed Vegetables	Fried Tilapia	Buttered Vegetables	Chicken Roll
	Rice	Rice	Rice	Rice	Rice
	Fresh Fruits	Fresh Fruits	Fresh Fruits	Fresh Fruits	Fresh Fruits

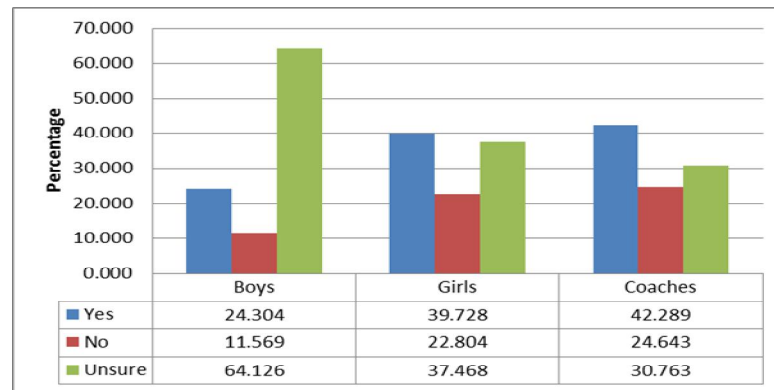
In the interview with the nutritionist-dietician of Region IV-A CALABARZON, she said was only consulted about nutrition 2 times in the 3 years of her tenure. Her criteria for preparing the menu are making it a balanced meal and easy preparation. Also, she noted that the budget given my DepEd was enough for the nutritional needs of the athletes and she stressed that proper nutrition is also important as those with athletic training.

The menu was independently assessed to another expert in nutrition who was a professor at the University of the Philippines College of Home Economics. According to her, she noticed the lack of variety of food in the menu as well as the high sodium content of foods as manifested by the presence of processed foods. Much more she noted the lack of servings provided and scarcity of serving of vegetables in the menu.

Upon return of the survey, results were statistically treated with the help of a student from the University

of the Philippines School of Statistics. Results of the survey were grouped to knowledge in nutrients which includes carbohydrates, protein, vitamins and minerals as well as hydration. After getting the percentages on each items, the general average was obtain to get the overall nutritional knowledge of athletes and coaches. It was seen that the girls have a higher score of 39.728% as compared to boys with 24.304%. Meanwhile on the unsure answers, girls got only 37.468% while boys scored 64.126%. As for the coaches, they garnered 42.289% for correct answers 30.763% for unsure response and 24.623% for wrong answers.

(See graph no. 1)



**Figure no. 1** Overall results for Nutritional Knowledge of Coaches and Athletes

### Discussions

In countries with high incidence of poverty like the Philippines, it is common to prioritize food choices through socio-economic status and budget. It is known that when the funds are not enough for food, there will be little or no choices for a particular group or family. That's why like for nursing mothers in Nairobi, Kenya, many of them lacks the nutrition needed and this can be linked to the socio-economic status of an individual (Ongosi, 2010), (Fojas-Luna, 2001). In terms of sport nutrition policies, most of countries successful in international competitions have a great number of sport nutritionists that monitor the food intake as well the nutritional value of each meal served to the athletes. Upon personal correspondence of the author to Burkhardt and Zinn, it was known that they are handling specific number of events and athletes as compared to the lone nutritionist of the Region IV-A CALABARZON who is tasked to provide the same menu for the whole delegation. This was in contrast with the nutrition policy of Athletics Ontario wherein they give great attention to nutrition as important factor for athletic performance.

As noticed earlier with the results of the overall nutritional knowledge of athletes and coaches, the difference of correct answers of coaches and girl athletes are minimal. Large part of the answers of boy athletes is unsure answers as compared to girls. The knowledge of the athlete can be link on the hours spent in training. In the most system of training for student-athletes for the Palarong Pambansa, most of the regional delegations provide training period mostly one to two months prior to the competition. In some cases there are chances that athletes are allowed to train full time three to four weeks before the event. There will be chance of not giving attention to their studies due to the set-up that athletes are excused to their classes during the whole training period. In terms of the coaches' educational status, most of them are not yet done with their graduate studies and they finished different

degrees in their Bachelor's degree. There was no assurance if their respective courses tackled about sports nutrition. Mostly the scope of graduate studies in education in the Philippines is administration and supervision of schools and there were limited chances for coaches to get a graduate degree related to exercise science and nutrition.

Results of the study are in congruence that women have higher nutritional knowledge in their athletic performance (Paugh, 2005). Although in the study by Burkhardt (2010) there is no big gap between male and female athletes in terms of nutritional knowledge and the same results was also seen in the study of Browning and Grioux (2010) where in fact there is a difference between gender on the questions regarding calories it is not significant to identify the different in nutritional knowledge. It is also expected that those athletes whose course is related to Physical Education has a higher nutritional knowledge as compared with students from other disciplines (Azizi et al., 2010). In other studies, when nutritional knowledge of coach, athletes, strength and conditioning specialists and dietician, it was obvious that that dieticians are having more knowledge but since the coaches are the ones easily consulted by the athletes and more focused on training (Torres-McGehee et al, 2012). Moreover, the lack of coaches' knowledge is usually seen by just using visual reference to check the weight and condition of an athletes and not using proper measurement on this matter (Overdorf et al, Silgailis, 2010).

It was noted earlier that the researcher tried using a 7-day food record based on Heaney (2010) but since the record was given during the competition, athletes have no time filling up the record. That's why it is suggested that future researches using this method should be given proper time including the pilot testing of the questionnaire for the nutritional knowledge. Also the study can be replicated on a more large number of



athletes and coaches which may include the whole national delegation for Palarong Pambansa.

### Conclusions

Based on the study and data presented, it is seen that both athletes and coaches have low nutritional knowledge as seen as well in their practices that they have limited food choices provided by the menu by the lone nutritionist of the CALABARZON region. Mostly it was the female athletes with high regard for nutritional knowledge. It is recommended that there should be an extensive program for sport nutrition education for athletes and coaches as it was not much covered in the present curriculum in the Philippines as most athletes and coaches are mainly concern with athletic training and nutritional knowledge was set aside due to lack of opportunities for continuing education. Coaches and trainers should be provided chance to undergo graduate studies in exercise science as well as provide more nutritionist-dietician that will closely monitor the eating plan and the nutrients provided not only during the tournament itself but also during the training period.

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