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Public High School Students' Rationale of Food Choices and its Implication to Their Health Decisions and Literacy

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Abstract: Vast information on health literacy is widely available with the emergence of media accessibility. However, do the adolescents effectively utilize this information especially in their choice of food to eat? Adolescence is a vital stage in the growing up years because it is the period of physical, psychological and social maturing from childhood to adulthood, hence, optimum health is imperative. These adolescents spend most of their waking up hours at school. Therefore, educators play a vital role in connecting the gap. This study involved 1364 public high school students from the seven National High Schools of East II District in Cagayan de Oro City. The researcher surveyed on the available snack items sold among school canteens, the prevalent food bought by students and their reasons for buying such foods. It was found out that the food frequently consumed by students do not meet the minimum required energy and nutrient intake for their age and that price and palatability were the primary criteria for food choice. The nutrient value of the food is the least factor that students consider. This paper discusses the recommendations on the need to integrate the basic health information to make appropriate health decisions into the instruction.

Key words: Health literacy, optimizing diet, adolescents, RENI

INTRODUCTION

Around 1 in 6 persons in the world is an adolescent: that is 1.2 billion people aged 10 to 19 (Adolescence: Health Risks and Solutions, 2014). This stage of human development is described as one of the most dynamic stages of human development, accompanied by dramatic changes that present both opportunities and challenges (Cohen, 2016). Adolescents, therefore, are at a crucial stage of development, learning skills they will carry with them into adulthood.

Adolescent health needs to be at the optimal state of well-being in all areas of (Guiding Principles in Promoting Adolescent Health, 2016). The experiences and decisions during adolescence lay a foundation that will significantly contribute to the unique characteristics and maturation of the young adult. As such, it provides the foundation for adult health status. Hence, health professional needs to be sensitive to the changes that will occur in the health supervision partnership as adolescents become increasingly capable of making independent decisions about their health (Cohen).

However, even with the health knowledge and information available everywhere, health literacy among adolescents is still very low. Even in countries considered with well-developed health systems like the USA, low level of health literacy persists. Survey revealed that even high school and college graduates in the U.S can have limited health literacy (America's Health Literacy: Why we Need Accessible Health Information, 2008).

In the Philippine context, medical and health industry leaders warned that the "low level of health literacy

among Filipinos, notably among the underprivileged, is one of the key drivers causing the ranks of unhealthy and sick Filipinos to swell at an alarming rate" (Mateo, 2014). Despite the available health and medical knowledge, "Filipinos failed to comply with what is needed and what must be done about their health."

Adolescents spend most of their waking up hours at school. (The K-12 Basic Education Program, n.d., 2015). Hence, school and educators play a significant role in influencing the basic health literacy of the adolescents so they can make better health decisions.

In the light of these findings about adolescent health, it is imperative to investigate the prevalent food choices among adolescents and their rationale for such behavior. Results of the survey, then, would be used as spring board for discussions on its implication towards health instruction.

MATERIALS AND METHODS

Study population: This study employed a cross-sectional descriptive research design. The researcher surveyed public high school students from the seven National High Schools of East II District in Cagayan de Oro City, a capital city located in the southern part of the Philippine archipelago. It was conducted during the school year 2014-2016. The respondents were 1364 students (652 males and 712 females), whose age bracket ranges from 12 to 19 years old. The average age for both genders is 14.47 years old. They were randomly chosen using the stratified random sampling with 95% level of confidence.

Data gathering tool: The survey was conducted using a guided questionnaire stated in local dialect to ensure that the students clearly understood what was being asked of them. Oral interviews were also conducted among the teachers of the schools where the survey was conducted to validate the responses of the students in the survey questionnaire. The questionnaire includes a survey of the respondents' socio-demographic profile, the foods sold in school canteens and nearby vendors, the prevalent foods bought by students and their reasons for buying such foods.

Data analysis: Result of the survey were all incorporated into the analysis process. The constant comparative method was used for analysis as this method relies on comparing and differentiating data to evaluate the nutrient content of food under study. Frequencies and percentage were also used classifying the age and gender of the respondents. Results were used as bases for comparing the RENI at a given age bracket.

Nutrient analysis: The nutrient content of the most prevalent consumed snack food among the respondents was analyzed using linear programming, an optimization model, to evaluate in details the nutrient content of the food and compared it against the recommended energy and nutrient intake for Filipinos at a given age bracket (Barba and Cabrera, 2008).

RESULTS

Prevalent food choice: Survey results, as presented in Table 1, reveal that the most commonly sold and bought food within the school premises and from among the food vendors near the school vicinity is banana spring roll, or locally known as turon.

Nutrient analysis: Using the linear programming method to analyze the nutrient content of banana turon, it was found out that a single serving of the food does not meet the minimum required energy and nutrient intake for the average age among adolescents. Table 2 presents the nutrient analysis of the banana turon. Comparing the result to the recommended energy nutrient intake of average adolescents as reflected in Table 3, it can be generalized that the nutrient intake is way below the RENI. It can be noted that even two servings of turon is consumed, still the RENI is not satisfied. Analyzing further the percentage of difference between the required and actual nutrient content of the food item under study, it can be noted in Table 4 that a serving of banana turon lacks 65% of calories, 34% of fats, 60% of carbohydrates and 88% of protein. Doubling the serving of this food item, still the total calories needed for a particular meal of the day lacks 30% carbohydrates 20% and protein 77%. The fats, however is sufficiently met.

Rationale of food choice: When surveyed why banana turon is the most commonly consumed food item, the respondents disclosed that they wanted food that fits their budget and that can satiate their hunger and taste. It is worthy to note that the nutrient content of the food is the last factor that the adolescents consider next to their consciousness that the food cannot make them fat. Other reasons of the respondents' food choices are shown in Table 4. The survey result gives the idea that the students' foremost rationale for food choice is the cost of food rather than its nutrient content.

DISCUSSION

In this study, it is observed that adolescents prefer to consider the cost of food rather than the nutrient they derive from it. A study was conducted on the factors affecting adolescent's food choices and results revealed that "eating healthful foods isn't a priority for most students" (Story and Stang, 2005). This is quite an alarming matter because, according to the study, this issue was categorized as matters "discussed most frequently and with greatest intensity."

Examining the integration of health education instruction in the Philippine educational structure, health education is mandatory in the Department of Education curriculum for both elementary and secondary students (Education in the Philippines, 2013). The goal of which is to help improve the students' learning to meet the more complex demands of Philippine society amidst the globalization, thus "helping each Filipino student to develop a healthy personal and national identity" (Bernardo and Mendoza, 2009). With this in mind, adolescents are presumed to have no excuse as regard to health decisions as they are equipped with basic health knowledge. However, according to Dr. Leachon, "Health literacy is not simply the ability to read. It requires a complex group of reading, listening, analytical and decision-making skills and the ability to apply these skills to health situations." It can, therefore, be implied that public high school students, no matter how informed they are at school about basic health knowledge, still lack the ability to apply this knowledge to health situations. If left unattended, it must be remembered that the low level of health literacy is a major factor in the issue of significantly decreasing the number of unhealthy and sick Filipinos (Health Literacy, 2016).

The challenge now is how to encourage these adolescents make healthy decisions as there is an urgent need to address the gap between the health information currently available and the skills. People have to understand and use this information to make life-altering decisions.

Health literacy is an important issue in public health today. Adolescents, as they are frequent users of mass media and other technology to access health information and are a target group for many health-

Table 1: Top snack food preferences among high school students

Snack items	No. of responses	Percentage
Banana spring roll turon	331	8.12
Biscuits/Crackers	281	6.89
Banana-Q	281	6.89
Junk Foods	246	6.03
Banana Cake	240	5.89
Chocolates	234	5.74
Cakes	229	5.62
Bread/Sandwiches	224	5.49
<i>Binignit</i> (Sweet vegetable soup)	219	5.37
<i>Maruya</i> (Banana fritter)	218	5.35
Hotcake (pancake)	218	5.35
<i>Siopao</i> (Steamed buns)	215	5.27
Candies	215	5.27
Nuts (peanuts, corn chips, etc)	196	4.81
<i>Empanada</i> (Meat pie patty)	187	4.59
<i>Biko</i> (Glutinous rice cake cooked syrup)	183	4.49
<i>Bihon/Pancit</i> (Sauteed rice noodles)	173	4.24
<i>Puto/Bingka/Suman</i> (Rice cake)	147	3.60
<i>Tempura</i> (Deep-fried battered vegetable)	23	0.56
Burger	11	0.27
Popcorn	7	0.17
Total	4078	100

Source: (Namoco *et al.*, 2015)

Table 2: Nutrient composition and cost of existing banana spring roll recipes

Recipes	Calories	Fats (g)	Carbohydrates (g)	Protein (g)
Serving	244.5	10.5	38.6	2.1
Servings	489.0	21.0	77.2	4.2

Source: (Namoco *et al.*, 20015)

Table 3: Recommended energy and nutrient intake for average adolescents

Requirements	Calories	Fats (g)	Carbohydrates (g)	Protein (g)
Minimum	700	16	96	18
Maximum	924	21	127	23

Source: (Barba and Cabrera, 2008)

Table 4: Difference of nutrient content against the minimum RENI in quantity and percentage

Requirements	Fats	Calories (g)	Carbohydrates (g)	Protein (g)
Serving of turon	455.5	5.5	57.4	15.9
	65%	34%	60%	88%
Servings of turon	211	0	18.8	13.8
	30%	0%	20%	77%

Table 5: Students' reasons for food choices

Reasons for buying food at school canteens	No. of responses	Percentage
Food is cheap	601	17
Food makes me full	531	15
Food is available in the	470	14
canteen/can be bought near by	425	12
Food is delicious	389	11
Cost of the food suits my budget	334	10
I am used to eat this food	242	7
My teachers buy this food	239	7
It is my favorite food	172	5
I believe that the food is nutritious	71	2
Food cannot make me fat		
Total	3474	100

Source: (Namoco *et al.*, 2015)

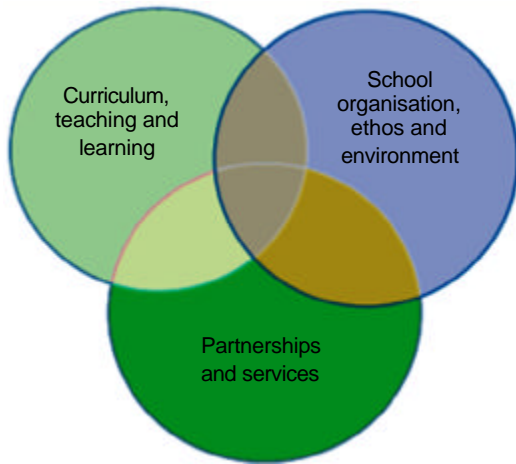


Fig. 1: Collaboration of stakeholders in adopt-a-health program

related educational interventions (Manganello, 2007), must be exposed to a credible source of online health information as this is associated with higher levels of health literacy (Ghaddar *et al.*, 2012).

Studies reveal that students with lower academic performance are more likely to drop-out. Subsequently, high-school drop outs tend to be unhealthy and poorer and that individuals with more education tend to be healthier. On the other hand, Students with higher grades are less likely to engage in risk taking behaviors.

Recommendations: To shed light on this gap, studies suggest current strategic approaches to health promotion for adolescents.

One of these strategies is a continued periodic health supervision during adolescence in order to provide anticipatory guidance, support health-promoting behaviors and help the adolescent to apply increasingly sophisticated thinking in evaluating the consequences of new behaviors and roles (Cohen). Among these support that adolescents need are the ones from their immediate family, health professionals (Russell and Macfarlane, 20015), community, school environment (World Health Organization, 2010) and policy makers (America's Health literacy: why we Need Accessible Health Information, 2008).

Another suggested strategy is providing continuing education about basic health knowledge and community engagement. This has been a practice of the University of Utah Health Care. Utah is ranked as "having the healthiest population at the lowest per capita cost in the USA (Gardner, 2015)." In this approach, people are engaged in healthy lifestyles. Another one is adopting

the health-promoting school approach just as what Eaton Hills State School in Brisbane, Australia did (Workforce Council). This was a collaboration among the school administrator, staff and school community (Fig. 1). It can be recalled that learning that occurs through the formal curriculum in schools is an important way of bringing basic health issues.

Finally, since media plays a significant role in spreading information and arousing attentiveness, it can be used to carry healthful messages such as the dangers involved in poor nutrition practices. This has the potential of improving the health decisions and behaviors of adolescents

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