

Nutritional Status of School Age Children in Private Elementary Schools: Basis for a Proposed Meal Management Plan

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Abstract— Department of Education (DepEd) organizes nutritional programs to improve the health status of children in public schools. Likewise, the researcher believes that health awareness must be raised in private schools as well. This study aimed to affect the community to be aware and more knowledgeable about nutrition. Specifically, this study focused on the nutritional status of school age children in private elementary schools in Santa Rosa, Nueva Ecija. It sought to determine the profile of the learners, anthropometrics, clinical data and the knowledge of the learners as to dietary and the significant relationship between the profile of the learners and the nutritional status of the school aged children. With all the data gathered a meal management program was proposed. The study employed the quantitative description design. The study manifests that majority of the respondents were not yet aware of what they eat. In addition, age, greatly affects the respondent's anthropometrics as to height. More so, age, number of siblings and family income, greatly affect the respondents' anthropometrics as to weight. The researcher adopted the Nutritional Guidelines for Filipino program that was developed by the DOST- FNRI.

Keywords— Anthropometrics, Nutritional Status, School Age Children.

I. INTRODUCTION

According to the World Health Organization (2018) Health has become a major issue for most people in the world. Researchers indulge into different experimentation to find cures to illness and diseases. As the world has never been health conscious, proper diet and nutrition become the main focus of the society. Malnutrition contributes to more than 60% of 10 million child deaths each year where 43% of the children are stunted and 9% are wasted. These global phenomenon resulted to decreased scholastic performance, lower IQ levels, poor psychosocial development, decreased cognitive functions and reduced adult size which lead to deteriorating economy.

Nutritional problems among children require immediate action. Malnutrition in a child results from interplay of causative agents. The common causes of malnutrition are poverty, faulty food intake, scarcity of food, large family size, low level of education, intra-familial food distribution, urbanization, and more (De Guzman, 2006). Apolinar (201) said that epidemiology and ecology of malnutrition should be analyzed in order to develop a new source of wealth with the penetration of mass media in which has affected the pattern of malnutrition in the young. Nutritionists said that health and adequate nutrition are interrelated to each other. The body needs enough amount of proteins, vitamins and other nutrients to maintain healthy normal growth. Since food is of the physiological needs of human, it is his desire to satisfy hunger. On the contrary, people do not get enough of those nutrients either due to bad eating habits or they cannot afford it. However, people nowadays start searching alternative ingredients from the environment to fill in the necessity for food.

Claudio (2007) reiterated that as a child grows, he becomes aware of the relationship of food to a healthy body.

Based on Dimaano's (2007) research, the period of 7 and 12 years is characterized by a slow steady growth,

increased body proportions, enhanced mental capabilities, and more motor coordination. The Department of Education (DepEd) organizes nutritional programs to improve the health status of children in public schools. Likewise, the researcher believes that health awareness must be raised in private schools as well. This study aimed to affect the community to be aware and more knowledgeable about nutrition.

Specifically, this study focused on the nutritional status of school age children in private elementary schools in Santa Rosa, Nueva Ecija. It sought to determine the profile of the learners, anthropometrics, clinical data and the level of knowledge of the learners as to dietary and the significant relationship between the profile of the learners and the nutritional status of the school aged children. With all the data gathered a meal management program was proposed.

II. METHODOLOGY

The study employed the quantitative description design. Using the Sloven's formula, the study involved 180 respondents from the different private elementary schools in one of the municipalities in Nueva Ecija. The main instrument used in this study was a questionnaire. Comments, revisions and suggestions from the researchers' adviser were incorporated to validate the content of the questionnaire. It was then personally administered by the researchers to the respondents after seeking approval from the authorities. The data gathering procedure included observation every meal break to obtain facts for the development of the meal management plan. Percentage, weighted mean and Pearson r were employed as statistical tool in the treatment of data.

III. RESULTS AND DISCUSSIONS

Description of the profile of the respondents in terms of age, sex, occupation of parents, order of birth, number of siblings and monthly family income.

Majority of the respondents belonged to 10-12 years old, mostly female, whose parents were OFW, and whose family income ranges from P 25,000 and above.

According to the Dietary Guidelines for Americans (2010), children aged 10-12 need healthy foods because they have a consistent, but slow rate of growth and usually eat four to five times a day. Likewise, Dimaano (2016) stated that most girls start to menstruate during this age and were recommended allowances for one or more nutrients. On the contrary, teenage girl's poor diet can be caused by emotional and social pressures. Based on the researchers' observations, parents whose working in professional positions can afford to provide their children nutritious food. Hatton and Martin (2008) said that birth order can only affect health outcomes if inequality of resource allocation is present in the household. Furthermore, in the survey conducted by Casey (2001), about 2.2% of households are reported to have food insufficiency. Families with low income experience food insufficiency due to lack of money.

Nutritional status of respondents in terms of anthropometrics as to height and weight of the respondents.

Survey reveals that majority of the respondents stand 51 inches and above and weigh 71 kilos and above. According to Kidshealth Organization (2015), a child's height is determined by genetics or daily nutritional intake. Most kids' growth slows down after the first year of life breaking down into mini growth spurts. To ensure a child reaching a normal height and weight, they must be taught certain lifestyle habits while practicing patience.

Clinical data of the respondents as to diseases, allergies and operations underwent, and number of vaccines received during infancy up to present.

In terms of diseases, majority of the respondents did not have disease when they were young, 72.2% did not have allergy. About 172 of them did not undergo any operations, while 61.7% had 4 vaccines. Paula (2013) defines clinical data as the obtaining of individual's medical history. Vaccines reduce and prevent an individual from infectious diseases (Center for Disease Control and Prevention, 2016).

Table 1 shows the nutritional status of respondents in terms of clinical data as to dietary knowledge

Dietary Knowledge	WM	Verbal Description
1. Eating fruits and vegetables is good for one's health.	4.30	Strongly Agree
2. Too much sugar intake is good for one's health.	2.15	Disagree
3. Eating a variety of foods is good for one's health.	3.29	Moderately Agree
4. Food high in fat is good for one's health.	2.26	Disagree
5. Food with a lot of staple food such rice and rice products are not good for one's health.	2.21	Disagree
6. Fish, poultry, eggs and lean meat are good for one's health.	3.33	Moderately Agree
7. Less consumption of animal fat in the diet is good for one's health.	3.35	Moderately Agree
8. Milk and dairy products is good for one's health.	4.10	Agree
9. Physical activities are good for one's health.	4.44	Strongly Agree
10. Sports or other physical activities are not good for one's health.	2.53	Disagree
11. The heavier one's body, the healthier he or she is.	2.46	Disagree
Overall weighted mean	3.13	Moderately Agree

The table presents the dietary knowledge of the respondents. It shows that the learners Moderately Agree as to their Dietary Knowledge. It can also indicate the lack of information as regard eating nutritious food or is seldom practiced in the Filipino table setting and school environment.

The role of parents in educating their children to eat healthy food at an early stage in life can be a big factor in the latter's nutrition. Nowadays, children are engrossed with eating too much of processed food and softdrinks. This

includes cured meat like hotdogs to be the daily breakfast of every Filipino child. These items are openly sold in school canteens and are often unregulated. Although children are taught in school about proper diet, many factors are to be considered like their utter dislike for vegetables. Cooking this stuff can consume much time, hence the preference of parents for quick-cook food because they are busy to attend to other household chores. Secondly, the capacity of parents to financially sustain a balanced diet which they still view the process to be costly.

Table.2: Shows the correlation of profile of respondents and their anthropometric height and weight)

Profile	Height, r-value	Interpretation	Weight, r-value	Interpretation
Age	.161 *	Significant relationship	.324**	Significant relationship
Gender	.116	No significant relationship	.035	No Significant relationship
Mother	-.061	No significant relationship	-.027	No Significant relationship
Father	.133	No significant relationship	-.055	No Significant relationship
Birth Order	.036	No significant relationship	-.026	No Significant relationship

Siblings	-.025	No significant relationship	-.151*	Significant relationship
Income	.065	No significant relationship	.333**	Significant relationship

Legend: *correlation is significant @0.05 level; ** correlation is significant @0.01 level

Table 2 shows that gender had no significant relationship in the anthropometrics of the respondents as to height, parents' occupation, birth order, number of siblings, and family income. On the contrary, age greatly affects their anthropometrics.

As individuals age, the body changes and lifestyle may affect diet and eating habits (Robinson and Segal, 2017).

Moreover, the table shows that weight, gender, parents' occupation and birth order had no significant relationship to the anthropometrics of the respondents. In contrast, age, number of siblings and family income greatly affect the respondent's anthropometrics as to weight. Good nutrition is vital to the growth and development of children (healthypeople.gov., 2006).

Table.3: Correlation of profile of respondents and their clinical data as to diseases, allergies and operations

Profile	Number of Allergies, Diseases and Operations	
	r- value	Interpretation
Age	0.041	No Significant Relationship
Gender	0.06	No Significant Relationship
Mother	0.053	No Significant Relationship
Father	-0.004	No Significant Relationship
Birth Order	0.088	No Significant Relationship
Siblings	-0.004	No Significant Relationship
Income	0.068	No Significant Relationship

Table 3 implied the significant relationship between the profile and clinical data as to number of diseases, allergies and operations of the respondents using Pearson's r. It further indicates that there is no significant relationship between the profile and the number of allergies, diseases and operations.

Table.4: Correlation of profile of respondents and their clinical data as to vaccines received

Profile	Number of Vaccines Received	
	r- value	Interpretation
Age	-0.024	No Significant Relationship
Gender	0.078	No Significant Relationship
Mother	-0.057	No Significant Relationship
Father	0.026	No Significant Relationship
Birth Order	0.057	No Significant Relationship
Siblings	0.133	No Significant Relationship
Income	-0.035	No Significant Relationship

Table 4 indicates that there is no significant relationship between the profile and vaccines received of the respondents using Pearson r.

Table.5: Correlation of profile of respondents and their dietary knowledge

Profile	Dietary Knowledge	
	r- value	Interpretation
Age	0.056	No Significant Relationship
Gender	-0.124	No Significant Relationship
Mother	0.084	No Significant Relationship
Father	-0.014	No Significant Relationship
Birth Order	0.032	No Significant Relationship
Siblings	0.123	No Significant Relationship
Income	.162*	Significant Relationship

*correlation is significant @0.05 level

It can be noted that income has significant relationship on the dietary knowledge of respondents. Since family income bracket gathered is considered moderately high by Philippine criteria, they are able to buy the food they want, but not necessarily conscious of its dietary contents. The latest Family Income and Expenditure Survey (FIES) conducted by the Philippine Statistical Authority (PSA, 2016) found that each Filipino household allots 42.8% of its monthly income to food expenses.

Proposed intervention program that may employ to improve the health status of the school age children

With the result of the investigation made by the researcher on the dietary knowledge and correlation of the profile and anthropometrics. The researcher highly recommends the implementation in every household and schools the program that was developed by the Food and Nutrition Research Institute of Department of Science and Technology the "National Guidelines for Filipinos 2000". It is a set of dietary guidelines based on the eating pattern, lifestyle and health status of Filipinos. This consists vegetables, fruits, carbohydrates, proteins, water, and dairy products with suggested amounts. The NGF contains all the nutrition messages to healthy living for all age groups from infants to adults, pregnant, and lactating women and the elderly.

IV. CONCLUSION

Based on the findings, the following conclusions were drawn:

1. Majority of the respondents belonged to 10-12 years old, mostly female, whose fathers are OFW, first child in the family, had one sibling, and had a family income ranging from P 25,000 and above.
2. Majority of the respondents stood 51 inches and above, and weighed 71 kilos and above in terms of anthropometrics. In terms of diseases, majority of the respondents did not have any disease when they were young, 72.2% did not have allergy, 172 of them did not undergo any operations and 61.7% had at least 4 vaccines.
3. Majority of the respondents answered "Moderately Agree" in the statements in the Dietary Knowledge which means that the respondents were not yet aware of what they eat.
4. Gender had no significant relationship to the anthropometrics of the respondents as to height, both parent's occupation, and birth order, number of siblings, and family income. On the contrary, age, greatly affects their anthropometrics. Moreover, weight, gender, parent's occupation and birth order had no significant relationship as to weight. In contrast, age, number of siblings and family income, greatly affect the respondents' anthropometrics as to weight.
5. A meal management plan is proposed to enhance the nutritional status of children.

V. RECOMMENDATIONS

Based on the conclusions drawn, the following recommendations are hereby offered:

1. Parents may try to control when and where food is eaten by their children by providing regular daily meal times with social interaction and demonstration of healthy eating behaviors.
2. In every household, parents may involve their children in the selection and preparation of foods, and teach them to make healthy choices by providing opportunities to select foods based on their nutritional value.
3. Most students need to reduce the amount of calories they consume. When it comes to weight control, calories do count. Controlling portion sizes and eating non-processed foods helps limit calorie intake and increase nutrients.

4. Parents are encouraged to provide recommended serving sizes of food for children.
5. Parents are encouraged to limit children's video, television watching, and computer use to less than two hours daily and replace the sedentary activities with activities that require more movement.
6. Children and adolescents need at least 60 minutes of moderate to vigorous physical activity on most days to have good health and fitness and for healthy weight during growth.
7. To prevent dehydration, encourage children to drink fluid regularly during physical activity and to drink several glasses of water or other fluid after the physical activity is completed.
8. Parents may try to apply organic farming method in their backyard to promote a healthier environment that is free from chemicals and will provide cheaper but nutritious foods for their children. A food that is free from chemicals will result to a cheaper, nutritious and healthy body.

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