



# NUTRITIONAL ENHANCEMENT OF DAY CARE PUPILS OF UPPER NAJE, ARAKAN, COTABATO THROUGH SUPPLEMENTARY FEEDING

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## ABSTRACT

This research explored mainly to determine the nutritional enhancement of day Care pupils of Upper Naje, Arakan, Cotabato through supplementary feeding. It determines the socio-demographic characteristics of the parents; effect of supplementary feeding; factors that influence the nutritional status of the pupils; relationship of the socio-demographic characteristics of the parents on the weight of the child. Respondents were 20 parents and 27 Day Care pupils. Socio-demographic characteristics of the parents were determined using frequency and percentage; T-test was used to determine the effect of the supplementary feeding; factors that influence the nutritional status were analyzed using mean; while the hypotheses were tested using multiple linear regression techniques.

The findings revealed that majority of the parents were female, high school level, have small family size, and full-time housekeepers. Most of the father were elementary level with farming as main occupation and have an annual income of below Php 20,000.00. Socio-demographic characteristics of the parents significantly influenced the weight of the pupils. Among the significant predictors were number of children, educational attainment of the mother and father and parents' annual income. The results revealed that there was a substantial increase on the weight of the pupils when supplementary feeding was administered. Financial capacity of the parents and supplementary feeding always influence their nutritional status. It could be concluded that the lesser the number of children and the higher educational attainment and income of the parents, the greater would be the influence on the weight of the child.

**Keywords:** Nutritional Enhancement, Supplementary Feeding, Day care

## 1. INTRODUCTION

Most of the world's people today, as always, are engaged in a struggle for food. More than half of the world's populations are victims of hunger and malnutrition in one form or another. This is the principal health and nutrition problem of the world which brought about the pulling together of efforts of several groups to combat malnutrition (Proudfit-Robinson, 1996). In the Philippines, malnutrition is still the greatest health problem caused by the scarcity of food (Cobatit, 1993). Other developing countries, protein-calorie malnutrition of young children is a problem which affects the majority of the urban and rural children from five months of age onwards. It is quite definite that the protein calorie of early childhood is permanently stunting the growth of many children in the country. It is alarming to note that there is a close relation between early childhood malnutrition and subsequent poor intellectual development. Malnutrition therefore, in conjunction with other environmental factors common to poverty, is limiting the abilities of children to reach their true intellectual potentialities (Beaton, G. & Ghassemi, H., 1992).

Barangay Naje of Arakan, Cotabato is considered as one of the Agrarian Reform Communities (ARC) that has Day

Care Learning Center which caters the social services of the constituents like early childhood education. According to the Barangay report, malnutrition is prevalent among the children ages 0-8 months. However, it is believed that pre-school children of Naje have a nutritional problem that needs intervention. Based from the report of Barangay Health Worker, as of 2008, 27 percent of the children were malnourished.

Good health is very important to maintain a happy peaceful, useful and satisfying family. But this can only be achieved if there is a proper nutrition and healthful living. Healthful practice that has been introduced to the children at home could still be widened in school where the children are influenced by the health practice of other individuals they imitate. Health education enables a person to recognize and understand health problems that can affect the individual and the society. This can help the person to appreciate the value of health. Healthy persons bear a healthy mind. It is much easier to establish proper diets of health and healthful living in the early life of the child (Eppright et al., 1993).

The study was conducted to find out the influence of supplementary feeding based on the three basic food groups on the weight of the day Care pupils of Upper Naje, Arakan, Cotabato.

**2. STATEMENT OF THE PROBLEM**

This study determined the Nutritional Enhancement of Day Care pupils of Upper Naje, Arakan, Cotabato through Supplementary Feeding. Specifically, this aimed to answer the stated problems:

1. What is the socio-demographic characteristics of the parents?
2. What is the effect of supplementary feeding on the weight of the child?
3. What are the factors that influence the nutritional status of the Day Care pupils?
4. Is there significant relationship between the socio-demographic characteristics of the parents and the weight of the child?

**3. METHODOLOGY**

This part presents the research design location, duration and respondents of the study; construction and refinement of the research instrument; data gathering; research procedures and statistical analysis of data.

**4. THE RESEARCH DESIGN**

This study used descriptive survey method. This was used in collecting and processing qualitative and quantitative data to provide the general characteristics of the respondent and other relevant information for a reliable result of the study.

**5. LOCALE OF THE STUDY**

The Day Care Learning Center of Upper Naje, Arakan, Cotabato (Fig. 2) is located along the barangay road connecting Barangay Doroluman on the north, on the east by Barangay Makalangot, on the south by Arakan River and on the west by Barangay Ilustre, President Roxas.

**6. THE RESPONDENTS OF THE STUDY**

There were 47 respondents of the study composed of the day care pupils including the parents of Upper Naje, Arakan, Cotabato.

Table 1 Number of Respondents of Day Care Pupils in Day Care Learning Center of Upper Naje, Arakan, Cotabato

UPPER NAJE DAY CARE LEARNING CENTER	SAMPLE SIZE Children and Parents
Boys	16
Girls	11
Parents	20
Total	47

Tables 2 and 3 show the percentage scheme and the number of malnourished day care pupils of Upper Naje, Arakan, Cotabato.

The data shows in table 2 that there were 11 boys and 5 girls malnourished Day Care pupils which constituted of 59.26%.

The data shows in table 3 that out of 27 Day Care Pupils of Upper Naje, Arakan, Cotabato, about 40.74 % of the pupils have normal weight, while 18.52 % were below normal (low) and 40.74 % below normal (very low) in terms of weight based from the table of Barangay Nutrition. The table interprets the nutritional status of age and weight category of the child.

Table 2 Percentage Scheme of the Respondents in the study

Grade Level	Enrolment		Total	No. of Malnourished		Total	%
	Boys	Girls		Boys	Girls		
Day Care Pupils	16	11	27	11	5	16	59.26

Table 3 Number of Malnourished Day Care pupils in Upper Naje, Arakan, Cotabato

Weight	No. of Pupils		Total	%
	Boys	Girls		
Above Normal	0	0	0	0
Normal	5	6	11	40.74
Below Normal (Low)	3	2	5	18.52
Below Normal (Very Low)	8	3	11	40.74

**7. RESEARCH INSTRUMENTS**

The necessary data were gathered through the use of an improvised or modified questionnaire/ instruments in "Improving the Health and Nutrition of Children for Quality Basic Education" patterned from the work of Calma (2000). There were modifications made in the questionnaire with the inclusion of the rating scale from 1 to 5 and some statements to suit the school location of Upper Naje, Arakan, Cotabato.

**7.1. Scaling**

The respondents answered the questionnaire according to the instruction given and by rating the factors that will improve the Nutritional Status of Day Care Pupils according to the parents' perception. Each item was rated with the scale of five ranging from never (if the factor never influences nutritional status); seldom (if the factor could influence 1% - 49% nutritional status); often (if the factor could influence 50%-74% nutritional status); very often (if the factor could influence 75% - 99% nutritional status); and always (if the factor could influence 100%). A numerical equivalent was given in each rating scale as shown below:

1. Never
2. Seldom
3. Often
4. very often
5. always

**7.2. Administration of the Questionnaire**

The procedures used in the administration of questionnaires were the following:

1. Secured permission from the Barangay Captain through the Day Care Worker to conduct the study. The approved letter request is attached as Appendix A.
2. Oriented the parents of the respondents as to the purpose of the study and how they were going to

accomplish the questionnaire. Questions that were raised on some items or statements were answered.

3. The questionnaire was administered and retrieved after it had been filled up by the parents' respondents.
4. The data gathered were collated and tabulated for statistical treatment and analysis.

**7.3. Statistical Treatment of Data**

The socio-demographic information gathered was tallied and tabulated. T-test for dependent and correlated samples was employed to find out the result of supplementary feeding to the weight of the child. Mean was used to determine factors that improved nutritional status of the Day Care pupils. The hypotheses were tested using multiple regression analysis techniques.

**8. RESULTS AND DISCUSSION**

This includes the socio-demographic characteristics of the parents of the respondents, the outcome of supplementary feeding to the child, factors that improve the nutritional status of the Day Care pupils of Upper Naje, and the relationship of the socio-demographic characteristics of the parents' respondents, and supplementary feedings on the weight of the child.

**8.1. Socio-demographic Characteristics of the Parents**

The parents of the respondents include age, sex, number of children, educational attainment of the mother and father, occupation of the mother and father, and parents' annual income.

**8.2. Age**

The age of the parents was grouped into two brackets, 27 - 40 and 41 above. Table 4 shows that 15 (75%) of the parents belong to the age bracket of 27 to 40 years old five (25%) were under the age bracket of 41 years old and above.

**8.3. Sex and Number of Children**

Table 4 reflects there were only one (5%) male parent respondent and 19 (95%) female parent respondents.

Out of the 20 parent respondents, 15 (75%) of them have one to two sons and five (25%) have three to four sons. For the number of daughters, there were also 15(75%) parent respondents that have one two daughters while, five (25%) have three to four daughters.

**8.4. Mother's Educational Attainment and Occupation**

The educational attainment of the mother respondents was from elementary to college. Most (65%) of them were high school level, 20 percent were elementary level, and 15 percent were college level (Table 4). The findings imply that mother of the Day Care pupils finished only secondary education. According to some mothers, the reason for not pursuing higher education was due to poverty and the distance from the higher institution.

Since most mother was only high school level, majority of them were housekeeper (80%) and the rest were laborer (10%), farmer (5%), and government/private employee (5%) (Table 4).

Table 4 Socio-demographic Characteristics of Parents of the Respondents

Characteristics		Frequency (N-20)	Percentage	
Age	27-40	15	75.00	
	41	5	25.00	
Sex	Male	1	5.00	
	Female	19	95.00	
Number of Children	Son	1-2	15	75.00
		3-4	5	25.00
		5 Above	0	0.00
	Daughter	1-2	15	5.00
		3-4	5	25.00
		5 Above	0	0.00
Mothers Educational Attainment	Elementary	14	20.00	
	High School	13	65.00	
	College	3	15.00	
Mothers Occupation	Farming	1	5.00	
	Housekeeping	16	80.00	
	Laborer	2	10.00	
	Government /Private Employee	1	5.00	
Fathers Educational Attainment	Elementary	11	55.00	
	Secondary	7	35.00	
	Tertiary	2	10.00	
Fathers Occupation	Farming	17	85.00	
	Laborer	2	10.00	
	Gov/Private Employee	1	5.00	
Parents Annual Income	P 5,000.00-19,999.00	18	75.00	
	20,000.00– 39,999.00	1	25.00	
	40,000.00 above	1	5.00	

Table 5 Initial and Final Weight of Day Care Pupils.

No	Name	Initial Weight	Final Weight	Weight Increment	Status
1	Banayo, Angelo	15.4	15.8	0.4	B
2	Banayo, Jeepe	19.0	20.0	1.0	B
3	Cagud, Heredine	15.7	17.1	1.4	B
4	Cariola, Jhonrel	17.3	17.8	0.5	B
5	Dalam, Esmael	15.3	15.9	0.6	B
6	Gange, Oliver	15.4	16.5	1.1	D
7	Gange, Revejard	17.5	18.1	0.6	D
8	Pineda, Ariel	13.8	14.6	0.8	D
9	Sarapanan, Archie	17.3	17.7	0.4	D
10	Sesmundo, Jeepee	17.9	18.8	0.9	B
11	Mae, Arwin	10.4	12.5	2.1	B
12	Tababa, Justine	12.0	12.4	0.4	B
13	Tababa, Mergelo	15.0	15.7	0.7	D
14	Verano, April Boy	17.4	18.1	0.7	D
15	Verdadero, Bernie Lee	13.3	13.8	0.5	B
16	Verdadero, Khamie	15.8	17.0	1.2	C
17	Algan, Bailyn	15.8	17.0	1.2	D
18	Arevalo, Gil Mae Fe	17.0	17.5	0.5	B
19	Banayo, Evangeline	14.9	15.5	0.5	B
20	Borja, Angela Nicole	14.4	14.9	0.6	B
21	Padernal, Jane Rose	16.1	17.0	0.9	B
22	Ras, Queeny Gie	14.7	15.1	0.4	B
23	Seranzo, Refulyne	14.7	15.1	0.4	D
24	Sesmundo, Jessle Gwen	11.4	11.9	0.5	B
25	Supaña, Shayne Mae	14.1	14.6	0.5	B
26	Valzado, Emile	17.8	18.6	0.8	B
27	Valzado, Melanie	16.3	16.8	0.5	B

Legend	Weight
A	Above Normal
B	Normal
C	Below Normal (Low)
D	Below Normal (Very Low)

**8.5. Effect of Supplementary Feeding to the Weight of the Child**

Table 6 shows that there is a substantial increase on the weight of the child after the administration of supplementary feeding. Supplementary feeding is a possible intervention to those children who are nutritionally at risk. Through supplementary feedings, the nutrients that their body needs would enhance following the three basic food groups. Proper nutrition through supplementary feedings is a great help to those parents who are facing financial constraints. The result leads to reject the hypothesis that supplementary feeding does not influenced the weight of the Day Care pupils.

Findings are in parallel with the statement of Rivera (1998) that supplementary feeding have positive effect to the growth of young children who were mild to moderately malnourished.

The findings conformed to the statement of De Guzman (2000) that the students who do not eat breakfast are not ignorant of the nutritional value of breakfast but they are just lazy in preparing their foods.

Table 6 Supplementary feeding to the weight of the Day Care Pupils

Variable	Computed <i>t</i>	Tabular <i>t</i>
Supplementary Feeding	10.46*	1.0

\*= Significant at 5% level

**8.6. Factors that Influence the Nutritional Status of the Day Care Pupils**

Table 7 shows the factors that improved the nutritional status of the day care pupils of Upper Naje, Arakan, Cotabato.

The result revealed that the nutritional status of Day Care Pupils always influenced by the supplementary feeding and financial capacity of the and seldom influenced by the lecture/teaching/ demonstration.

The findings conformed to the claim of the Food and Agriculture Organization that poverty cannot be broke unless financial capacity of the people is sufficient to buy foodstuff.

This finding is in parallel with Claudio (2000) that the nutritional status of an individual is the end result of interacting and interrelated forces in the community, including the social, economic, cultural, technological and political environment. At the community and household levels, factors related to the food system, employment and income, health and feeding practices ultimately affect person's nutritional status. At the household, available income as well as eating preferences plays significant roles in deciding the kind and amount of food that finally reaches the family dining table. Once consumed, the extent utilization of the food by the body is influenced by the health condition of the individual, which results from health and environmental factors. The key to socio-economic development of the country lies in the full and

effective use of available man power which is possible only if the health and nutritional status of the community are answered. It is recognized that our society will fall behind in development and productivity if the majority of the population are in a state of deplorable health. Thus, improving the level of nutrition of our population should be the main goal of our public health and nutrition programs.

Table 7 Factors that influence the Nutritional Status of the Day Care Pupils

S.no.	Statement	Mean	Description
1	Occupation	2.90	Often
2	Financial Capacity of the Parents	3.45	Always
3	Educational Background	2.80	Often
4	Supplementary Feeding	3.15	Always
5	Lecture/teaching demonstration	1.80	Seldom

Ranges

0.00-0.99	Never Influence
1.10-1.99	Seldom Influence
2.00-2.99	Seldom Influence
3.10-3.99	Always Influence

**8.7. Relationship of the Socio-demographic Characteristics of the Parents and the Weight of the Child**

It can be viewed in table 8 that the combined effect of the socio - demographic characteristics of the parent respondents like age, sex, number of children, educational attainment and occupation of the mothers, educational attainment of the father, and annual income of the parents has significant influence on the weight of the child (F-value=2.653, P=0.009).

Taken singly, the number of children (t-value=2.153, P=0.038), educational attainment of the mother (t-value=1.536, P=0.047), father's occupation (t-value=3.494, P=0.027), educational attainment of the father (t-value=2.365, P=0.036), and parents' annual income (t-value=2.259, P=0.025) influenced most the weight of the Day Care Pupils. It implies that the lesser the number of children and the higher the educational attainment of parents, the greater the influence on the weight of the child. It implies further that the higher the annual income of the parents, the better the effect on the weight of the child.

Table 8 Relationship of the socio- demographic Characteristics of the Parents and the Weight of the Child.

Variables	Coefficient B	Standard Error	t-Value	Probability
(Constant)	0.551	0.522	0.998	0.009
Age	0.614	0.758	0.814 ns	0.614
Sex	0.495	0.554	0.893 ns	0.917
Number of Children	0.211	0.098	2.153*	0.038
Educational Attainment of the mother	0.779	0.507	1.536	0.047
Mothers Occupation	0.445	0.509	0.874ns	1.557
Fathers Occupation	0.304	0.087	3.494*	0.027

Educational Attainment of the Father	0.499	0.211	2.365*	0.036
Parents Annual Income	0.122	0.054	2.259*	0.025

Multiple R = 0.811 ns=Not Significant  
 F – Value = 2.653\* \* = Significant at 5 % level  
 Probability = 0.009

## 9. CONCLUSION

Socio-demographic characteristics of the parents particularly the number of children, educational attainment of mothers, father's occupation and educational attainment, and annual income of the parents has significant influence on the weight of the child. However, some characteristics like age, sex, and occupation of the mother do not significantly influence the weight of the child.

It is also concluded that supplementary feeding to the child and the different factors such as father's occupation, financial capacity, and educational background of the parent's significant influence the weight of the child.

## RECOMMENDATIONS

- Parents of the Day Care Pupils should feed their children with nutritious food following the basic food groups using available local foods.
- Prevent the malnutrition of children by providing them adequate food and protection.
- Continue the feeding of the day care pupils for a long supplementation for a total recovery and good health.
- The Local Government Unit through Rural Health should also intervene by providing vitamins for the malnourished children and maintain the weekly supplementary feeding.
- Sustain the balance diet of every individual to fight malnutrition.

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