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A Sequential Explanatory Analysis of Nutritional Status And Health Care Practices Of Senior High School Students In Eastern Samar, Philippines

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Abstract

Objective: To examine the over-all health status and practices of Senior High School Students in Easter Samar, Philippine in order to design programs that will improve learners' health status. **Methods:** This study utilized a sequential explanatory mixed method design through in-depth interviews of the key informants who were actively involved in program implementation in the five schools selected in the Division of Eastern Samar, Philippines during School Year 2019-2020. **Findings:** It was found that some of the student-respondents have nutritional problems. Further, the positive impacts included improved students' health and school environment and enhanced community awareness. However, the key impediments in implementing the program included a lack of coordination, lack of resources, limited training opportunities, and doubts regarding the sustainability of the program. **Conclusions:** In light of the findings, the following conclusions have been drawn: Most of the SHS students-respondents has a problem in their Nutritional Status; teacher-respondents identified several operational barriers to implementing and expanding the program throughout the division; the four major challenges identified by the teacher-respondents were lack of coordination between division health unit, lack of resources, lack of training opportunities, and low sustainability of the program; and despite these challenges, all the respondents acknowledged that the School-based health and nutrition program had positive effects on students, schools, and communities and provided some suggestions to improve the implementation of the program in the division.

Keywords: Health and nutrition program, senior high school, sequential explanatory, mixed methods, Eastern Samar

I. INTRODUCTION

Students represent the future of families, communities, and countries. They face the pressures during the attempts of achieving success in their academic ambitions and are likely to become future leaders in their society whether in the economy, education, or politics [1]. World Health Organization disclosed that health is not only the absence of disease but a state of the complete mental and physical well-being of a person with the productivity and performance by the intake of food and utilization of nutrients [2].

Basic education is the most powerful single intervention for improving the health and nutritional status of infants and young children. Policies that promote high-quality universal education in primary standards are one of the necessary conditions for sustaining proper development with a better quality of life with equity. Schools and universities play a spirited role in building health knowledge (mentally and physically) and skills for their students [3].

Therefore, health is wealth. And it is an important factor for academic achievement at school, especially in higher education. Further, implementing a student health program during their academic development is important which assists schools and universities in creating a healthier education environment. [4] disclosed during the Basic Training Aid lecture on August 14, 2017, that several Senior High School (SHS) Grade 11 students in Eastern Samar State University (ESSU) with genito issue which incorporates urinary tract infections (UTI) or infiltrates has ninety-two cases, three respiratory diseases (TB & asthma, pneumonia), obesity eleven, eight overweight, sixty underweight, and eleven severely underweight.

According to the Nutritional Status report of Eastern Samar division, it has 5.05% wasted SHS students in the division or a total of 276 and 4.42% Severely stunted or 195 both Grade 11 and 12 students in the division.

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Under Presidential Decree No. 603 known as Child and Youth Welfare Code of the Philippines Article 3 section 4 expresses that every child has the right to a balanced diet, adequate clothing, sufficient shelter, proper medical attention, and all the basic physical requirements of a healthy and vigorous life. It applies that every child has the right to enjoy the basic needs of people such as food, water, shelter, clothing, and health care.

Moreover, the researcher intends to find out the overall health status of senior high school students in the Eastern Samar division. The result of this study may benefit the school and division for they may find alternative actions on how to handle their students with health-related problems. It also protects our students and promotes the well-being and total development of the children and youth, protects them from exploitation, abuse, hazards, improper influence, and the circumstances prejudicial to the physical, mental, emotional, and social development.

Objectives of the study

This undertaking is aimed to examine the overall health status among Grade 11 Senior High School students' in the Eastern Samar division.

Specifically, the study hopes to achieve the following objectives:
1. Find out the nutritional status via Body Mass Index (BMI) of SHS students;
2. Examine the nutritional status of SHS students in terms of:
    2.1 Weight
       2.1.1   Severely Wasted
       2.1.2   Wasted
       2.1.3   Normal
       2.1.4   Overweight
       2.1.5   Obese
    2.2 Height
       2.2.1   Severely Stunted
       2.2.2   Stunted
       2.2.3   Normal
       2.2.4   Tall
3. Examine health issues and challenges that affect the SHS students health status; and
4. Document school-based health care interventions employed to enhance learner's health status.

II. METHODOLOGY

This section presents a description of the research design to be used, a description of the respondents and locale of the study, the research instruments, the validation of research instruments, the procedures, and statistical treatment that will be utilized in analyzing the data gathered.

Research Design

The purpose of this study was to examine the health status of SHS students in Eastern Samar Division using the explanatory sequential mixed method design. This is an approach to combining qualitative and quantitative data collection and analysis in a sequence of phases [5].

. This design is characterized by the collection and analysis of quantitative data followed by a collection of analysis of qualitative data.

Research Locale

This study was conducted in selected SHS - secondary offerings school in the Eastern Samar division. According to the Basic Education Information System (BEIS) of DepEd Eastern Samar division, there are 10, 735 enrollees for SHS in the division.

The researcher employed the population from three different public SHS in Eastern Samar with high reported cases Nutritional Status in the division school year 2019-2020, namely, Jipapad National High School, Llorente National High School, and Dolores National High School.

Participants of the Study

The participants of the study included Grade 11 and 12 SHS students ranging in age from 16 to 20. The students participating in the study are from the identified SHS that has a severe record of malnutrition from the Health and Nutrition Unit of the Eastern Samar division. Moreover, for the Key Informants (KIs), the researcher selected ten Physical Education teachers in the SHS and 5 School Heads or Assistant Principals.

Sampling Procedure

For quantitative, the researcher utilized secondary data available in the health and nutrition office from the Eastern Samar division.

Consequently, using the thematic analysis the researchers examines the qualitative data to identify common themes like topics, ideas, and patterns of meaning that come up repeatedly.

Research Instrument

There are two research instruments used in this study. Instrument A used in gathering the SHS student's nutritional status based on the format given by the Department of Education DepEd Order # 37, s. 2014. Instrument B an adopted survey questionnaire. Some items are modified.

Data Gathering Procedure

This study used explanatory sequential mixed method design. This is an approach to combining qualitative and quantitative data collection and analysis in a sequence of phases (Crewell& Plano, 2011). In the first phase, the researcher will collect qualitative data and then analyze the data, the result of which directs the next, quantitative phase, which could be a survey questionnaire.

In the quantitative data collection phase, the researcher gathered secondary data from the Health and Unit office to assess the health via nutritional status results of the students. Consequently, during the qualitative data collection phase, the researcher will explore the school leaders' role in the learner's health status through a focus group discussion (FGD) or interview.

Data Analysis

After administering the questionnaire, data collected and analyzed by sorting, tallying, and computing the responses and perceptions to arrive at the correct results and conclusions of the study and to describe the health status of SHS students in the Eastern Samar division.

The researcher will utilize the percentage to compare the BMI of the students. Also, the frequency count will be used in the analysis that requires counting the responses and reproducing them.

Consequently, this study will employ Median to sort data from health care awareness of students. During the data collection and after its completion, the responses will be thoroughly edited and crosschecked. Following this, responses for the closed-ended questions were categorized and Colaizzi's Framework used. This method has a series of steps to analyze qualitative data; First, the research read and reread the transcripts. Second, the researchers will extract significant statements about the study. Third, after extracting the researchers will formulate meaning from the significant statements. Fourth, the creation of themes cluster or themes. Lastly, the description of themes.

III. RESULTS AND DISCUSSIONS

This study focused on the nutritional status and healthcare practices of the SHS students in the selected SHS in the Division of Eastern Samar. The results are stated in a form of texts, figures, and tables.

Table 1. **Percentage Distribution of the Respondents according to Body Mass Index (BMI)**

Geade Levels	Enrolment		Students Weighed		Severely Wasted		Wasted		Normal		Overweight		Obese	
	BODY MASS INDEX (BMI)													
Grade 11	M	489	489	100.00%	15	3.07%	35	7.16%	429	87.73%	5	1.02%	5	1.02%
	F	510	510	100.00%	14	2.75%	25	4.90%	461	90.39%	2	0.39%	8	1.57%
	Total	**999**	**999**	**100.00%**	**29**	**2.90%**	**60**	**6.01%**	**890**	**89.09%**	**7**	**0.70%**	**13**	**1.30%**
Grade 12	M	385	385	100.00%	16	4.16%	21	5.45%	341	88.57%	3	0.78%	4	1.04%

	F	486	486	100.00%	13	2.67%	36	7.41%	426	87.65%	2	0.41%	9	1.85%
	Total	**871**	**871**	**100.00%**	**29**	**3.33%**	**57**	**6.54%**	**767**	**88.06%**	**5**	**0.57%**	**13**	**1.49%**

From the table 1, 58 SHS students had 6.23% with severely wasted nutritional status. Correspondingly, the majority of 31 (3.6%) were male. The greatest number of respondents with 117 obtaining 6.28% with wasted nutritional status. The majority of the respondents with wasted nutritional status were female (6.16%). Among them were males with 6.3% wasted. According to WHO, wasting, based on a child's weight and height, is a measure of acute nutritional deficiency.

Table 2: **Percentage Distribution of the Respondents according to HFA**

		HEIGHT FOR AGE (HFA)								
Grade Levels	**Severely Stunted**		**Stunted**		**Normal**		**Tall**		**Students Taken Height**	
Grade 11	15	3.07%	45	9.20%	421	86.09%	0	0.00%	481	98.36%
	18	3.53%	52	10.20%	436	85.49%	0	0.00%	506	99.22%
	33	**3.30%**	**97**	**9.71%**	**857**	**85.79%**	**0**	**0.00%**	**987**	**98.80%**
Grade 12	21	5.45%	53	13.77%	290	75.32%	0	0.00%	364	94.55%
	23	4.73%	61	12.55%	387	79.63%	0	0.00%	471	96.91%
	44	**5.05%**	**114**	**13.09%**	**677**	**77.73%**	**0**	**0.00%**	**835**	**95.87%**

Table 3: **Percentage Distribution of the Respondents according to Body Mass Index (BMI)**

		BODY MASS INDEX (BMI)												
Grade Levels		**Enrolment**	**Students Weighed**		**Severely Wasted**		**Wasted**		**Normal**		**Overweight**		**Obese**	
Grade 11	M	67	65	97.01%	1	1.54%	3	4.62%	58	89.23%	2	3.08%	1	1.54%
	F	62	61	98.39%	0	0.00%	5	8.20%	54	88.52%	0	0.00%	2	3.28%
	Total	**129**	**126**	**97.67%**	**1**	**0.79%**	**8**	**6.35%**	**112**	**88.89%**	**2**	**1.59%**	**3**	**2.38%**
Grade 12	M	54	54	100.00%	0	0.00%	2	3.70%	48	88.89%	4	7.41%	0	0.00%
	F	48	48	100.00%	0	0.00%	3	6.25%	43	89.58%	2	4.17%	0	0.00%
	Total	**102**	**102**	**100.00%**	**0**	**0.00%**	**5**	**4.90%**	**91**	**89.22%**	**6**	**5.88%**	**0**	**0.00%**

Table 4: Percentage Distribution of the Respondents according to HFA

HEIGHT FOR AGE (HFA)										
Grade Levels	Severely Stunted		Stunted		Normal		Tall		Total number of Students Taken for Height	
Grade 11	2	3.08%	12	18.46%	30	46.15%	0	0.00%	44	67.69%
	4	6.56%	20	32.79%	30	49.18%	0	0.00%	54	88.52%
	6	**4.76%**	**32**	**25.40%**	**60**	**47.62%**	**0**	**0.00%**	**98**	**77.78%**
Grade 12	1	1.85%	8	14.81%	10	18.52%	0	0.00%	19	35.19%
	4	8.33%	14	29.17%	15	31.25%	0	0.00%	33	68.75%
	5	**4.90%**	**22**	**21.57%**	**25**	**24.51%**	**0**	**0.00%**	**52**	**50.98%**

Table 5: **Percentage Distribution of the Respondents according to Body Mass Index (BMI)**

BODY MASS INDEX (BMI)														
Grade Levels	Enrolment		Students Weighed		Severely Wasted		Wasted		Normal		Overweight		Obese	
Grade 11	M	206	199	96.60%	2	1.01%	14	7.04%	179	89.95%	3	1.51%	1	0.50%
	F	209	208	99.52%	0	0.00%	11	5.29%	196	94.23%	1	0.48%	0	0.00%
	Total	**415**	**407**	**98.07%**	**2**	**0.49%**	**25**	**6.14%**	**375**	**92.14%**	**4**	**0.98%**	**1**	**0.25%**
Grade 12	M	132	131	99.24%	2	1.53%	15	11.45%	108	82.44%	3	2.29%	3	2.29%
	F	178	176	98.88%	0	0.00%	16	9.09%	151	85.80%	8	4.55%	1	0.57%
	Total	**310**	**307**	**99.03%**	**2**	**0.65%**	**31**	**10.10%**	**259**	**84.36%**	**11**	**3.58%**	**4**	**1.30%**

Table 6:Percentage Distribution of the Respondents according to HFA

HEIGHT FOR AGE (HFA)										
Grade Levels	Severely Stunted		Stunted		Normal		Tall		Students Taken Height	
Grade 11	7	3.52%	34	17.09%	115	57.79%	0	0.00%	156	78.39%
	4	1.92%	44	21.15%	138	66.35%	0	0.00%	186	89.42%

	11	**2.70%**	**78**	**19.16%**	**253**	**62.16%**	**0**	**0.00%**	**342**	**84.03%**
Grade 12	1	*0.76%*	14	*10.69%*	64	*48.85%*	0	*0.00%*	79	*60.31%*
	4	*2.27%*	22	*12.50%*	101	*57.39%*	0	*0.00%*	127	*72.16%*
	5	**1.63%**	**36**	**11.73%**	**165**	**53.75%**	**0**	**0.00%**	**206**	**67.10%**

In this study, almost all the key informants appreciated the school-based health and nutrition program implementation and the positive impact it has on students, schools, and communities. The positive impact included best practices such as; improved students' health and education outcomes, improved school environment, and enhanced community awareness. However, key informants also identified key impediments in implementing the program: there was a lack of coordination between stakeholders, lack of resources, limited training opportunities, and doubts regarding the sustainability of the program

Best Practices

The majority of the Key Informants (KIs) from the five SHS mentioned that there is a structural network from top to down which included Division Health Services, School Clinics, and different aid agencies at the Local Government Units (LGU), which were involved in program implementation. At the district level and schools, depending upon the local context and area, the key players involved were District Health Office, schools, Municipal Health Office (MHO), local NGOs, health posts, youth clubs, and parents. A few participants from the central level stated about the health and nutrition program, which was also formed with stakeholders from different tiers and has been actively involved in implementing programs as a campaign.

Moreover, the majority of KIs from all SHS mentioned that they conducted activities such as school cleaning programs, access to safe drinking water, improving toilet and hand washing facilities, waste disposal pits in school, construction of classrooms, toilets, etc. They mentioned that the above activities helped to improve the school environment.

"Students used to defecate openly in the past, but now they have started using toilets. They collect garbage in the garbage box and after it is filled, they burn it." (KI3, Physical Education teacher).

Challenges of the School-based health and Nutrition Program

Despite the positive impact of the School-based health and nutrition program on students, parents, and communities, this study identified several barriers and challenges to implement the program. Some of the key informants from the SHS mentioned that horizontal coordination was lacking between the Division Health Unit and District Health Unit.

Lack of coordination between stakeholders

The majority of key informants responded that MHO, and their institutions from the division to local levels were responsible to implement the programs and a certain level of coordination existed between them. However, some of the key informants mentioned that the division health section was more active compared to the district health units. Furthermore, the overall coordination between these two sectors was limited, which therefore led to a lack of planning for the sustainability and scaling up of the program.

"There are some difficulties with coordination among stakeholders. Horizontal coordination is more difficult than vertical coordination". (KI5: SHS, Assistant Principal)

Though a certain level of coordination exists between the stakeholders, I don't see that extent of coordination even at the division level, which could generate resources. So I think it is a bit lacking in this part, which can be a challenge for the sustainability of the program (KI4: Physical Education teacher).

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Limited financial, human, and material resources

Almost all key informants in this study responded that the allocated funds for the School-based health and nutrition program were not sufficient to implement all the program components and expand it nationwide. Besides, insufficient human resources and physical infrastructures were other major hurdles.

"Human and material resources are insufficient from the central to the district level. We have not been able to fulfill the demands". (KI7:Physical Education teacher)

"In our school, we do not have teachers with enough knowledge about health issues. Also, we have not been able to use toilets properly and they are smelly because of lack of water facilities. (KI9: Physical Education teacher)

Limited training opportunities

All the key informants agreed that training is essential to implement the School-based health and nutrition program effectively. Though the majority of the key informants from the school level, mixed responses were obtained from the key informants at the district level and schools. Some of them mentioned that they had received the training once, while some were not even aware of such training.

Sustainability of the program

Almost half of the key informants from different levels were positive regarding the sustainability of the program, while others were doubtful due to lack of resources.

"It is not sustainable. We don't have enough resources. We have conducted it in twodistricts but could not expand it to other districts. So if resources are available, we can make it sustainable". (KI10: Physical Education teacher).

Health and nutrition of adolescents is bedrock of a healthy nation. The present study revelead thatsome of the student-respondents have nutritional problems. Similar studies conducted in Sri Lanka, Nigeria and Philippines. This study confirms that undernutrition is still a considerable health problem in the plantation sector in Philippines.This is much similar to the prevalence of malnutrition reported by the PSA in 2020. In the national study conducted by the PSA, those at risk of obesity was 11.4% women and 6.5% men (Institute).

Correspondingly, (Galgamuwa, Iddawela, Dharmaratne, & Galgamuwa, 2017) disclosed, underweight was the most common undernutrition indicator among students. High prevalence of stunting and wasting also reveal that most of the students in the study groups were suffering from long term chronic malnutrition, which negatively effect on both mental and physical improvements in childhood. Decreasing food purchasing ability, dietary changes and poor personal hygiene of mothers as well as infectious disease may have a role in the nutritional status of students.

IV. CONCLUSIONS AND RECOMMENDATIONS
Conclusions

This study provided a deeper understanding of the linkage between the School-based health and nutrition program implementation among SHS in the Division of E. Samar.

1. Most of the SHS students-respondents has a problem in their Nutritional Status.

2. Teacher-respondents identified several operational barriers to implementing and expanding the program throughout the division.

3. The four major challenges identified by the teacher-respondents were lack of coordination between division health unit, lack of resources, lack of training opportunities, and low sustainability of the program.

4. Despite these challenges, all the respondents acknowledged that the School-based health and nutrition program had positive effects on students, schools, and communities and provided some suggestions to improve the implementation of the program in the division.

Recommendation

The study further highlighted that SHS from Eastern Samar division should coordinate and collaborate adequately to continue their efforts to implement and expand the program.

1. Furthermore, MHO and district health units together with the school health and nutrition units should jointly provide strong leadership and recognize their responsibilities to improve students' health and academic outcomes.

2. Awareness campaigns and advocacy for the program are indispensable to pull more resources from relevant stakeholders.

3. Besides, the government should implement programs to encourage schools to generate resources at the local level and discourage over-dependency on external sources to make the program sustainable.

4. Impact assessment of the school-based health and nutrition program should further recommend for future studies

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