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ASSOCIATION BETWEEN SCHOOL HEALTH AND NUTRITION PROGRAM (SHNP) AND THE NUTRITIONAL STATUS OF ELEMENTARY PUPILS AT TARAKA DISTRICT: AN ANALYSIS FOR PROGRAM ENHANCEMENT

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ABSTRACT

The manifold benefits of health and nutrition program to students implemented at schools as the most strategic place spurs interest of scholars. The level of implementation of school health and nutrition program challengingly varied and so influence the associated result particularly the nutritional status of the recipient (student).

A descriptive-correlation study aimed at determining the association between the implementation of school health and nutrition program and the nutritional status of elementary pupils at eight government elementary schools at Taraka district. Participants were 75 teachers and 194 sampled grade six students with consent and assent and assessed for their perceived level of implementation of the program 4 components. Findings of the study shows that most of the teachers are female between 21 to 40 years old, graduated college and hold some master's degree units, and have been dealing with 17% wasted nutritional status of students.

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Health and nutrition education has been the most implemented component, yet not significant (sig.= 0.356) than school health services, healthful school living, and school community coordination as seldom implemented but found to have significant relationship with the nutritional status (sig.= 0.021, 0.025 & 0.10 respectively). The study concludes that components of SHNP implementation be reexamined for discrepancies and challenges or problems to maximize the benefits and achieve a better nutritional status for elementary students as recipients which consequently improves their academic performance and brighter healthy future.

Introduction

The association between nutrition program and health of students has been studied by scholars because of the magnitude of its benefits (Bhagwat, Sankar, Sachdeva, Joseph, & Sivaranjani, 2014; Gelli & Espejo, 2013; Lam & Lawlis, 2017; Rylatt & Cartwright, 2016; Wang & Fawzi, 2020). Research shows that feeding programs implemented at schools is linked with better health, including growth by height (Bwenge Malembaka et al., 2019), reduces anemia (Adelman, Gilligan, Konde-Lule, & Alderman, 2019), better nutritional status (Zenebe, Gebremedhin, Henry, & Regassa, 2018) and good eating habits (Rocha et al., 2018); better school performance such as better cognition like visual memory and auditory vigilance test (Hegazi, Sehlo, Al-Jasir, & El-Deek, 2015; Metwally et al., 2020) and class attendance (Gelli, 2015; Zenebe et al., 2018). Given that nutrition program has manifold benefit to health of students and their academic undertaking, not all of the school health and nutrition program implemented are successful and so needs further evaluation (Gelli et al., 2016; Moreno Villares et al., 2018).

The inking between school health and nutrition program and the health of students is linked with the differences in the degree of implementation at different schools, competency of the implementors, coordination with the stakeholders, number of malnourished students and the existing or recent socioeconomic crisis. For example, studies show that socioeconomic challenged family, poor school management, unmonitored students nutritional status, limited participation of parents and key-persons in the implementation of the program, and financial crisis as a result of conflict (Mais, Warkentin, Latorre, Carnell, & Taddei, 2017; Moreno Villares et al., 2018). Although school health and nutrition program has been the focus globally by scholars, still it is interesting to have inquiry about its association with nutritional status in the context of students in a school under a unique status and setting.

According to World Health Organization [WHO] (2009), school is the best and most practical place to implement health programs for school children in promoting health and academic performance. It has been proven across countries like Japan, Colombia, Nepal and USA to name few (Gallegos-Martinez & Reyes-Hernandez, 2016; Muros, Zabala, Oliveras-Lopez, Ocana-Lara, & Lopez-Garcia de la Serrana, 2013; Robles, Gutierrez, & Seifert, 2014; Shrestha et al., 2019). In the Philippines, Department of

Education (DepEd) has been in full support on its version in the implementation of School Health and Nutrition Program (SHNP) since its commencement and has been also proven effective based on studies which in fact recognized that promotion of health is equally valuable in making a well-developed lesson plan (UNESCO Report, 2005; Jamorabo-Ruiz & Guiking, 2013).

Research on school health program and nutrition is mainly based on theory of Hierarchy of Needs by Abraham Maslow and System Model by Betty Neuman (McLeod, 2007; Neuman, 1996). The theory of hierarchy of needs proposes that basic needs primarily physiologic needs has to be satisfied prior fulfilling the next hierarchy of needs such that of safety needs. For an instance, health and nutrition education as part of the component synergizes mental functioning of students, instill knowledge and importance of health and nutrition, and helps to achieve self-esteem needs of Maslow's. In particular, health and nutrition services are linked to physiological needs, healthful school living for safety needs, and school community coordination for health and nutrition for belonging needs which cumulatively culminates to self-fulfillment or self-realization needs. Neuman's System Model proposes that every individual health as an open system is affected by different factors. In this study, factors that could affect the nutritional status of the students that needs holistic approach similar to the implementation of the school health and nutrition program (SHNP) in order to develop state of wellness, perform functions optimally and better academic results. The component of SHNP such as Health and Nutrition Education, Services, Healthful School Living, and School-Community Coordination for Health and Nutrition (Jamorabo-Ruiz & Guiking, 2013) depicts subparts of environment that affects nutritional status of students. An imbalance of the components, for example, student with poor nutritional awareness and practices at school and home leads to malnutrition.

Drawing primarily on the theory of Maslow and Neuman, this study has been conducted to explore the correlation between school health and nutrition program and the nutritional status of elementary pupils at Taraka District, Lanao del Sur, Philippines due to the unique situation and setting in the implementation of the program. Result of the study served as analysis for the enhancement of the program and other strategic measures.

Methodology

This research applied descriptive-correlation method and gathered data using a standardized nutritional status checklist and an adopted questionnaire from Jamorabo-Ruiz & Guiking (2013) in assessing school health and nutrition program (SHNP) in the context of (a) health and

nutrition education, (b) health and nutrition services, (c) healthful school living and (d) school-community coordination for health and nutrition. All of the eight elementary schools at Taraka District, Lanao del Sur, Philippines were included as the locale of the study and sampling

yielded 194 grade six students as computed through Raosoft online sample size calculator (Saadatian et. al, 2012) which then stratified and randomly distributed in each school and all examined for categorization of nutritional status as normal, wasted, and severely wasted based on Basal Mass Index (BMI). Then a total remuneration of 75 elementary teachers participated in assessing the implementation of SHNP during 2017 to 2018 academic year.

Permission asked and granted from proper authority (school superintendent and principals) prior formal actual gathering of data and consent and assent has been complied for ethical considerations. Descriptive data of the study are presented through frequency, percentage distribution, mean and standard deviation; then, Pearson r for the correlation between nutritional status and implementation of SHNP.

Results and Discussion

Teachers as the second parents of students have an equally crucial role and responsibilities in the academic performance and health of their students. These are none dichotomous which means no teachers who can promote better performing students without better health. Based on table 1, it shows that most of the elementary teachers at Taraka District I and II were female (94.7%), at early to mid-adolescent or 21 to 40 years old (57.3%), married (72%), a college graduate (65.3%) and few have Master's degree (12%).

Teachers in the elementary schools of Taraka District are young but interestingly they had an experience in parenting since most of them are married or mothers in which they may relate child rearing roles and responsibilities in the implementation of school health and nutrition program. Though there is a study supporting that marital status has no statistically significant in the efficiency of teacher (Odanga, Aloka & Raburu, 2015), Alufohai & Ibhafidon (2015) claim that teachers age and marital status significantly influences academic achievement.

Moreover, young and middle age teachers which represent most of the teachers in Taraka District are interestingly claimed to be more effective in classroom communication, motivation, organization and competence than old teachers as based on studies (Alufohai & Ibhafidon, 2015; Martin & Smith, 1990; Gobel & Cashen (1979).

Table 1. Elementary Teachers Profile

Teachers Profile	Freq.	%
Age		
21 to 30 years old	21	28.0
31 to 40 years old	22	29.3
41 to 50 years old	13	17.4
51 to 60 years old	17	22.7
61 years old or above	2	2.7
Gender		
Male	4	5.3
Female	71	94.7
Civil Status		
Single	15	20.0
Married	54	72.0
Widowed	2	2.7
Separated	4	5.3
Educational Attainment		
College graduate	49	65.3
With Master's Degree	13	17.3
Units		
Master's Degree Holder	9	12.0
With PhD Degree Units	4	5.3
Total:	75	100.0

According to Buchura (2013), teachers reflective experience and commitment are important components in the success of the implementation of school programs. This suggest that teachers at Taraka District must be encourage, inspired and supported by its administration to promote continuous education or consider further studies. According to Odanga, Aloka & Raburu (2015), a school have powerhouse teachers if they have more and or better educational attainment as it improves their competence in different dimensions as professional teacher.

Based on table 2, the nutritional status of grade six pupils based on BMI computation shows that mostly were normal (83%) with few wasted (16.49%) and only one female pupil severely wasted (0.5%). This interestingly means that about 17% served as

determinants in terms of the effectiveness of school health and nutrition program. Since SHNP have been implemented for more than six years, it implies that it has been affected or influenced by various factors. Research shows that parental support, commitment and competence of the implementors and socioeconomic status of the elementary pupils family and the system of implementation influences the effectiveness of nutrition programs at school (Dalma et al., 2016; Lo, Cheung, Lee, Tam, & Keung, 2015; Mais et al., 2017).

Table 2. Nutritional Status of Grade Six Pupils

Nutritional Status	Male		Female	
	Freq.	%	Freq.	%
Normal	82	42.27	79	40.72
Wasted	14	7.21	18	9.28
Severely Wasted	0	00.0	1	0.51
Total:	96	49.48	98	50.51

School is the most strategic place to implement health programs for children to promote health by halting cases of malnutrition (WHO, 2009). Though there is a nutrition program being implemented, still result shows to have cases of wasted and severely wasted children because low-income countries like Philippines and particularly at Taraka district, Lanao del sur have gaps in the standards of nutrition and menu composition of the nutrition program (Aliyar, Gelli, & Hamdani, 2015).

Moreover, the degree of success of the implementation of school health nutrition program relies on the success of implementation of its components such as health and nutrition education, services, healthful school living, and school-community coordination for health and nutrition (see Table 3). Study shows that implementation of a nutrition program must be well understood by implementors and the recipient through showcasing the health and educational benefits,

discussing components of the program crucial for a successful result and support with evidence-based practices and outcomes (Wang & Fawzi, 2020). Providing health and nutrition education to the students improves their knowledge and understands provisions of its implementation, increases awareness, communication and builds a positive attitude and skills (Lytle, 1994). For this, the pupils at schools in the Taraka District as well as the implementors such as the school principal, teachers, and school nurses must have harmonious and solid background in health and nutrition education. The degree of implementation has to improve from implemented ($\mu=2.58$) to fully or always implemented. Implementors may optimize implementation at school through integrating and utilizing available sophisticated technologies brought by fourth industrial revolution (Pangandaman, Ali, Lambayong, & Ergas, 2018)

Furthermore, the disposition of health and nutrition services executed by implementors is also crucial component for the success in the implementation of school health and nutrition program as it has found to be practically and statistically significant (Best et al., 2020). Along with is designing a school environment that inspires, motivates and encourages all stakeholders involved to strengthen their commitment and passion towards the attainment of the mission and vision of health and nutrition program (Ademokun, Osungbade, & Obembe, 2014). Teachers are the most responsible in setting-up a healthful school living since they are in direct-contact with the students in weekdays particularly during classes (Jamorabo-Ruiz & Guiking, 2013). It suggests that teachers at Taraka must initiate in designing child-friendly school environment.

Table 3. Implementation of School Health and Nutrition Program (SHNP)

Components of SHNP	Mean	Descriptive Meaning
Health and Nutrition Education	2.582	Implemented
Health and Nutrition Services	2.312	Seldom Implemented
Healthful School Living	2.352	Seldom Implemented
School-Community Coordination for Health and Nutrition	2.423	Seldom Implemented
Weighted mean:	2.412	Seldom Implemented

However, teachers and other implementors at school needs to coordinate with the community as part of stakeholders in the promotion of health and nutrition of the students as the extended scope of the program. Based on studies, participation of parents and key-persons such as community leaders (barangay official, councilor, mayor) are essential in supporting a comprehensive implementation of health and nutrition program. It has found that students eating habits is associated with parental feeding styles and that they are greatly accountable in the possible behavior of their children towards health and nutrition; also, key-persons support by filling the gaps between the schools and the parents and organizing programs that augments and harmonize implementation of health and nutrition program are significant and important (Hayter et al., 2015; Lo et al., 2015; Mais et al., 2017; Rylatt & Cartwright, 2016; Warkentin, Mais, Latorre, Carnell, & Taddei, 2018).

Table 4. Relationship Between Nutritional Status and School Health and Nutrition Program (SHNP)

Variables	Pearson r value	p(sig. value)	Interpretation
Health and Nutrition Education	-.327	.356	Not Significant
Health and Nutrition Services	-.571	.021	Significant
Healthful School Living	-.697	.025	Significant
School-Community Coordination for Health and Nutrition	-.764	.010	Significant

In terms of the relationships between variables, it has found that health and nutrition education do not have significant relationship with the student's nutritional status (sig.=0.356) since its expected that health education is an integral part in the implementation of the health and nutrition program and because it became part of the teaching plan of teachers. Then, the components health and nutrition services, healthful school living, and school community coordination for health and nutrition were found to be significant with nutritional status of the pupils (sig.= 0.021, 0.025 & 0.10 respectively) because it has been seldom implemented. It means that it is important to look at this components of SHNP to monitor any irregularities and problems in the implementation in order to serve and guarantee a better nutritional status for the children or students (Rocha et al., 2018). Other studies also show that giving important consideration to these dimensions are significant in improving the nutritional status and so promote

sustainability of the program for long-term implementation (Rocha et al., 2018; Wan, Norazawati, & Lee, 2012; Zenebe et al., 2018).

Conclusion

The study concludes that components of SHNP implementation be reexamined for discrepancies and challenges or problems to maximize the benefits and achieve a better nutritional status of elementary students as recipients which consequently improves their academic performance and brighter healthy future. It is highly recommended that further study should be conducted particularly imploring a qualitative method. Implementation of the program must be strengthened and be focused on the components that are seldom implemented.

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