



ETCOR Educational Research Center Inc.
SEC Reg. No. 2024020137294-00
Sta. Ana, Pampanga, Philippines

INTERNATIONAL MULTIDISCIPLINARY RESEARCH CONFERENCE

Website: <https://etcor.org>



iJOINED ETCOR
P - ISSN 2984-7567
E - ISSN 2945-3577



The Exigency
P - ISSN 2984-7842
E - ISSN 1908-3181

Mediation Analysis of Nutrition Education to Nutritional Status and Nutrition Knowledge in Alfonso Castañeda, Nueva Vizcaya

Juliet S. Olosan
Tarlac State University, Tarlac City, Philippines
Corresponding Author email: jsolosannedhi@gmail.com

Received: 18 July 2024

Revised: 20 August 2024

Accepted: 21 August 2024

Available Online: 21 August 2024

Volume III (2024), Issue 3, P-ISSN – 2984-7567; E-ISSN - 2945-3577

Abstract

Aim: Nutrition is fundamental for human health and development, yet global disparities hinder access to adequate nutrition and education, exacerbating health inequalities. This study investigated the connections between nutrition knowledge, nutritional status, and nutrition education among Local Government Unit (LGU) employees in Alfonso Castañeda, Nueva Vizcaya, Philippines. It explored whether nutrition education mediates the relationship between nutrition knowledge and nutritional status.

Methodology: Using a quantitative approach and a randomized controlled semi-experimental design, the study involved 175 LGU employees. Anthropometric measurements and nutrition knowledge are assessed using BMI (Body Mass Index) and WHR (Waist-Hip Ratio), and the General Nutrition Knowledge Questionnaire (GNKQ) pre- and post-intervention, respectively. Nutrition education sessions focus on basic nutrition and non-communicable diseases, employing participatory nutrition lecture.

Results: There was no statistically significant relationship between nutritional status and nutrition knowledge following the intervention of nutritional education. Nutrition education does not mediate the relationship between nutritional status and knowledge, implying that factors other than information acquisition, such as socioeconomic situation, access to healthy meals, and individual dietary choices, may have an impact on dietary popularity.

Conclusion: This study highlights the potential of nutrition education to serve as a catalyst for positive change within communities. By fostering a deeper understanding of nutritional needs and empowering individuals with practical skills, LGU employees can lead healthier lives and contribute to the overall well-being of Alfonso Castañeda, Nueva Vizcaya. The insights gained from this research pave the way for future initiatives aimed at building resilient and nutritionally secure societies.

Keywords: Mediation Analysis, Nutrition Education, Status, Knowledge

INTRODUCTION

Proper nutrition provided the essential building blocks not only for human growth and development but also long-term health and well-being across the lifespan. At an individual level, nutrition encompassed much more than our daily food and beverage intake, underlying genetic predispositions notwithstanding. At higher ecological levels, however, major systemic barriers prevented too many socially and economically disadvantaged populations worldwide from reliably accessing or affording adequate nutritious foods along with nutrition education (Nguyen et al., 2017). These complex and intersecting nutrition inequities are context-dependent but interconnected by overarching societal failures to ensure basic human dignity and rights.

Among the social determinants of health driving disparities are poverty, food mirages, rugged landscape conditions, loss of biodiversity, lack of operational land, fragile food supply chains, lack of gender equity, poor infrastructure, armed conflicts, climate crisis disruptions, and unchecked corporate food system exploitation often tied to colonial histories among other factors outside individual control. Deficient or excessive intake of macronutrients,



ETCOR Educational Research Center Inc.
SEC Reg. No. 2024020137294-00

Sta. Ana, Pampanga, Philippines

INTERNATIONAL
MULTIDISCIPLINARY
RESEARCH CONFERENCE



Website: <https://etcor.org>



iJOINED ETCOR
P - ISSN 2984-7567
E - ISSN 2945-3577



The Exigency
P - ISSN 2984-7842
E - ISSN 1908-3181

micronutrients, along with exposure to toxins through the diet can lead to an array of nutritional disorders and poor nutritional status associated with profound morbidities and even premature mortality along with developmental, intergenerational, and economic consequences.

Access to nutrition knowledge, food literacy, and culturally appropriate nutrition education starting as early in life as possible was crucial to promote more equitable health chances across populations but must be coupled with multisector development and growth policies – global, regional, national, municipal, and so on– to attain lasting food and nutrition security and justice. Beyond informational content, effective evidence-based nutrition education fostered motivation, resources, and behavioral skills needed to prioritize and procure recommended balanced diets. Applied research into how to overcome barriers to behavior change along with improved local food system infrastructure and sustainable livelihood initiatives were also vital components.

The World Health Organization (WHO) categorized malnutrition as the biggest universal menace to public health, and it is evident by 20–60% of hospitalized patients assessed using SGA (Subjective Global Assessment) Tools. Micronutrient deficiency also known as the hidden hunger or changes in the absorption, distribution, or excretion of nutrients, and altered micronutrient metabolism resulting from systemic inflammation caused by obesity should also be included in the burdens of malnutrition, making DBM or Double Burden Malnutrition a Triple Burden Malnutrition (TBM) (Kobylińska, et. al, 2022). In April 2016, the United Nations General Assembly adopted a resolution proclaiming the UN Decade of Action on Nutrition from 2016 to 2025. The Decade aimed to generate policy commitments that resulted in measurable action to address all forms of malnutrition. The aim was to ensure all people had access to healthier and more sustainable diets to eradicate all forms of malnutrition worldwide (WHO, 2024).

The Philippines as a lower middle-income country, was facing multiple burdens of malnutrition despite rapid economic growth. Philippines continued to experience high levels of undernutrition (e.g., stunting, wasting, underweight) in addition to a rapid rise in the prevalence of overnutrition (e.g. overweight, obesity, and diet-related noncommunicable diseases) (Development Initiatives, 2022). The prevalence of overweight 14 and obesity among children and adolescents has been increasing worldwide. In the Philippines, the prevalence of adolescent overweight/obesity showed an increasing trend – from 4.9% in 2003 to 9.2% in 2015 and 11.6% in 2018. Obesity increased the risk of cardiovascular diseases, diabetes, some cancers, and other non-communicable diseases. (Platon-Desnaco, et. al 2021)

This study aimed to assess how nutrition education mediated the relationship between the nutritional status and knowledge of the LGU employees of Alfonso Castañeda.

The aim of this study was to ascertain whether the community's nutritional status can be considerably improved by focused educational intervention through nutrition lecture that may enhanced nutrition knowledge. This provides light on the value of nutrition education programs. Another goal of this research was to contribute to the development of public health policies and initiatives that will fight malnutrition and encourage better eating habits in the area.

Because of the distinct socioeconomic and health situations in Alfonso Castañeda, Nueva Vizcaya, addressing nutritional concerns through education is essential. Designing successful interventions as a Registered Nutritionist Dietitian (RND) requires an awareness of how nutrition education affects nutritional outcomes. In this situation, mediation analysis is a useful method for examining whether the outcome or result of nutrition education on nutritional status is direct or mediated by increased nutritional knowledge.

For an RND or a Registered Nutritionist-Dietitian residing in Alfonso Castañeda, leveraging mediation analysis offers several benefits. It enables the design of targeted interventions that address specific knowledge gaps or behaviors influencing nutritional outcomes. So, this understanding also capacitated program development of Alfonso Castañeda Municipal Nutrition Office like the launching of the Biggest Loser program on July 3 with the theme- "Move More Eat Right for Healthy Alfonso Castañeda", ensuring initiatives effectively enhance both knowledge and behavior change. Additionally, engaging with the community to understand local mediators of nutritional outcomes fosters trust and ensures that interventions are culturally appropriate and impactful. Incorporating these insights can significantly enhance the promotion of better health outcomes in the community.



ETCOR Educational Research Center Inc.
SEC Reg. No. 2024020137294-00

Sta. Ana, Pampanga, Philippines



Website: <https://etcor.org>

INTERNATIONAL
MULTIDISCIPLINARY
RESEARCH CONFERENCE



iJOINED ETCOR
P - ISSN 2984-7567
E - ISSN 2945-3577



The Exigency
P - ISSN 2984-7842
E - ISSN 1908-3181

Objectives

This study investigated the interplay between nutrition knowledge, nutritional status, and nutrition education in the Municipality of Alfonso Castañeda, Nueva Vizcaya. It specifically examined whether nutrition education serves as a mediator between nutritional status and knowledge.

Specifically, the study sought answer to the following questions:

1. How is the mediation analysis of nutrition education among employees of Alfonso Castañeda Nueva Vizcaya be discussed and analyze into:
 - a. Nutrition Knowledge
 - b. Nutritional Status
 - i. BMI
 - ii. WHR
2. Does Nutrition Education mediate the relationship between nutrition knowledge and nutritional status among LGU employees of Alfonso Castañeda, Nueva Vizcaya?
3. What measures can be proposed to solve the prevailing problems experienced by the respondents?
4. What are the implications of the study to Health Management?

METHODS

Research Design

This study aimed to assess the effectiveness of a nutrition education intervention by utilizing a quantitative research approach paired with a randomized controlled experimental study design. As outlined by authoritative sources like Apuke (2017), quantitative research is centered on numerically measuring key variables related to a study's aims across all participants. Then, through statistical testing and analysis of the resulting numerical data, researchers can identify trends, relationships between variables, and gauge the statistical significance of findings to draw data-driven conclusions.

Furthermore, embedded in the study is an experimental design by initial anthropometric measurements and pre-assessment of nutrition knowledge through a localized self-administered questionnaire which is the General Nutrition Knowledge Questionnaire (GNKQ). Right after the initial anthropometric measurement and pre-evaluation of the target populations' nutrition knowledge, nutrition education was conducted comprising basic nutrition and common non-communicable diseases related to nutrition. This activity was designed as a participatory learning where participants may ask question during the lecture. The final anthropometric measurements were also done. In this manner, implementing an experimental methodology constitutes the gold standard for evaluating whether this structured nutrition education can produce meaningful improvements in nutrition and diet within the target population.

Population of the Study

The respondents for this research study were the local government employees across varied roles and responsibilities residing in Alfonso Castañeda, Nueva Vizcaya. Specifically, the total population comprises one hundred twenty-one (121) regular full-time employees and two hundred (200) temporary job order contractors, making an overall population pool of 321 total LGU workers currently staffed. These workers represent nursing staff, agricultural extension officers, community nutrition scholars, rural infrastructure engineers as well as administrative and finance personnel that interface with citizens and juggle community development needs.

Data Gathering Instrument

The adapted questionnaire is derived from the European Journal of Clinical Nutrition, originally developed from the UK-validated General Nutrition Knowledge Questionnaire (GNKQ). It is 15- itemed questionnaire that comprises three main sections:

1. Nutrition Advice: The initial items focus on understanding the advice provided by nutrition experts.
2. Food Groups and Nutrients: This section assesses awareness of food groups and the nutrients they contain, based on how experts classify different foods.
3. Food Choices: The final part involves questions about selecting foods in various scenarios. It also



ETCOR Educational Research Center Inc.
SEC Reg. No. 2024020137294-00

Sta. Ana, Pampanga, Philippines

INTERNATIONAL
MULTIDISCIPLINARY
RESEARCH CONFERENCE



Website: <https://etcor.org>



iJOINED ETCOR
P - ISSN 2984-7567
E - ISSN 2945-3577



The Exigency
P - ISSN 2984-7842
E - ISSN 1908-3181

assesses the participants' knowledge on macronutrients and micronutrients composite of each food and the disease associated with overconsumption of specific foods.

To ensure its relevance and accessibility, the questionnaire was translated into Filipino by the researcher, making it more understandable across various professions. A trial run of this modified questionnaire was conducted with 30 employees of Nueva Ecija Doctors' Hospital Inc. with mostly sedentary physical activity to evaluate its effectiveness. Then the collected data was submitted to the statistician to test the reliability.

Calibrated Adult Clinical Weighing Scale (Detecto-Type) was used to measure weight and height as it is more accurate than Bathroom Scale. Ranases, et al. (1994) recommended that this type of weighing scale may be used in Health Stations as this has the accuracy of 50-100 grams and the sensitivity of 100 grams.

Measuring tape or "Medida" was used to measure the waist and hip circumference of the participants, with the reverse side of 60 inches and obverse side of 150 cm. The researcher chose to use the centimeter value so as not to make the participants too conscious and may affect the measuring event.

Data Gathering Procedure

This study carried out a comprehensive evaluation of the impacts 140 of a nutrition education thru lecture in basic nutrition by combining a quantitative sampling technique with a randomized semi-experimental design. Apuke (2017) states that quantitative research comprises assessing important variables that correspond to the study's objectives for each participant. Prior to taking final anthropometric measurements, participants' nutrition knowledge was pre-assessed using the General Nutrition Knowledge Questionnaire (GNKQ). Following that, the researcher conducted nutrition lecture about basic nutrition and lifestyle diseases. After the nutrition lecture session, the researcher administered post-evaluation using the same GNKQ. After a month, final anthropometric assessment was conducted to identify mediating effect of nutrition education to nutritional status of participants.

Data Analysis

Data gathered from anthropometric measurements were then inputted to the tabular forms created by the researcher and recorded to excel for further calculations and summarization. The excel column comprises names, gender, age, department, position, job status, initial anthropometric measurements for BMI (height in meter, weight in kilograms, BMI), Nutritional Status (Underweight, Normal, Overweight, Obese), initial anthropometric measurements for WHR (waist circumference, hip circumference, WHR), Disease Risk (Low Risk, Moderate Risk, High Risk), then the final anthropometric measurements with the same column names in the initial anthropometric measurements for both BMI and WHR. This excel has the formula for BMI and WHR and the summation of gender, job status (job order and permanent), nutritional status for both initial and final and disease risk for both initial and final.

The data which were gathered from this study were subjected to statistical tests using the Statistical Package for the Social Sciences (SPSS) software.

Mean was used to describe the Nutrition Knowledge and Nutritional Status before and after the intervention of Nutrition Education.

Standard deviation was used to determine the homogeneity or heterogeneity of the Nutrition Knowledge and Nutritional Status before and after the intervention Nutrition Education.

Pearson correlation was used to determine the relationship between Nutrition Knowledge and Nutritional Status before the intervention of Nutrition Education among individuals in Alfonso Castañeda, Nueva Vizcaya.

Ethical Considerations

This research undertook several preemptive measures to protect participants and promoted a complete, ethical, responsible inquiry process right from conception to conclusion. Voluntary participation rights, research objectives, risk protection provisions, intended uses of data, and guarantees allowing withdrawal of participation anytime without consequences were communicated well with the municipal mayor before the approval of this research study that he relayed with the local government employees before the conduct of nutrition knowledge assessments.



ETCOR Educational Research Center Inc.
SEC Reg. No. 2024020137294-00

Sta. Ana, Pampanga, Philippines



Website: <https://etcor.org>

INTERNATIONAL
MULTIDISCIPLINARY
RESEARCH CONFERENCE



iJOINED ETCOR
P - ISSN 2984-7567
E - ISSN 2945-3577



The Exigency
P - ISSN 2984-7842
E - ISSN 1908-3181

RESULTS AND DISCUSSION

Nutrition Knowledge of Local Government Employees in Alfonso Castañeda, Nueva Vizcaya Before and After the Evaluation

Table 1
Nutrition Knowledge of Local Government Employees in Alfonso Castañeda, Nueva Vizcaya
Before and After the Evaluation

Nutrition Knowledge	Mean	SD	Description
Pre-Evaluation	6.79	2.43	Average
Post-Evaluation	13.06	1.23	High

Note: 0 –5, Low; 6 –10, Average; 11 – 15, High

Table 1 shows the pre-evaluation and post-evaluation of Nutrition Knowledge of the local government employees across varied roles and responsibilities residing in Alfonso Castañeda, Nueva Vizcaya. The 15-itemed validated self-administered questionnaire was introduced and categorized the score as 0-5 as Low, 6-10 as Average and 11-15 as High.

The result shows that the pre- evaluation (Mean =6.79, SD=2.43) has a lower mean compared to the post-evaluation (Mean=13.06, SD=1.23). This indicates the average level of nutrition knowledge among the employees before the intervention. After the intervention, the mean score for nutrition knowledge increased to 13.06, with a smaller standard deviation of 1.23. This suggests that, on average, the employees' nutrition knowledge improved significantly following the nutrition lecture which became as high level. The significant increase in mean nutrition knowledge score, combined with a decrease in standard deviation, demonstrates the nutrition intervention's effectiveness in improving employees' understanding of nutrition-related concepts, highlighting the possibility of positive outcomes in both individual health and organizational well-being.

In the pre-test stage, each participant's mean score on nutritional knowledge was 6.79, with a 2.43 standard deviation. This indicates that the individuals had an average degree of nutritional knowledge prior to the intervention or educational program. With a mean score of 6.79, the participants answered just over half of the nutrition-related questions correctly on average. A standard deviation of 2.43 indicates that there was some variation in the scores, indicating that although the mean was approximately 6.79, the individual scores varied from above to below this value. After the intervention or the nutrition lecture, the participants' nutritional knowledge significantly improved. The mean score increased to 13.06 with a standard deviation of 1.23 in the post-evaluation phase. A significant improvement in nutritional knowledge is indicated by the mean score's rise from 6.79 to 13.06. The reduced standard deviation of 1.23 suggests that there was less variability in the participants' scores after the educational intervention, showing a more consistent and higher level of knowledge across the group.

Nutritional Status

A person's nutritional status, which is impacted by their food habits, lifestyle decisions, and socioeconomic status, is a critical determinant of their general health and well-being. Many people frequently have an access to inadequate nutritional status prior to engaging in nutrition education programs, which is defined by either excesses or deficits in important nutrients. Numerous health problems, including obesity and chronic diseases, can result from this imbalance, including malnutrition and decreased immunity. The goal of nutrition education is to solve these problems by giving people the information and abilities they need to understand and make better food choices. We may see notable gains in nutritional status when we compare the nutritional status before and after these educational interventions, demonstrating the effectiveness of these programs in encouraging healthier lives and improved health outcomes.

Finding out how well communities are nourished before and after nutrition education offers important new information on how well these interventions improve public health. Many people have incorrect eating habits that lead



ETCOR
Educational Research Center Inc.
SEC Reg. No. 2024020137294-00
Sta. Ana, Pampanga, Philippines

INTERNATIONAL
MULTIDISCIPLINARY
RESEARCH CONFERENCE



Website: <https://etcor.org>



iJOINED ETCOR
P - ISSN 2984-7567
E - ISSN 2945-3577



The Exigency
P - ISSN 2984-7842
E - ISSN 1908-3181



to undernutrition and overnutrition, two types of malnutrition that commonly occur before acquiring formal nutrition education. These illnesses have an impact on mental and emotional health in addition to physical health. Through the dissemination of vital information regarding dietary requirements, balanced meals, and good eating habits, nutrition education initiatives aim to address these problems. The nutritional status before and after such programs is compared, and if the results will show a significant improvement, which highlights the important role that education can promote healthier communities and lower the prevalence of health disorders related to diet.

Body Mass Index

Table 2. Comparison of WHO and Asia-Pacific BMI Classification

Nutritional Status	WHO (BMI)	Asia-Pacific (BMI)
Underweight	<18.5	<18.5
Normal	18.5-24.9	18.5-22.9
Overweight	25-29.9	23-24.9
Obese	30 and above	25 and above

Table 2 shows the comparison of WHO and Asia-Pacific BMI classification which has the same value in underweight BMI value and the same with the lower limit in Normal Class, however, from upper limit of normal class to obese class, WHO has greater value. Asia-pacific BMI classification has lower value than WHO BMI classification in the category normal, overweight, and obese. WHO and Asia-Pacific BMI Classification.

This study used the Asia-Pacific BMI classification as this classification is more applicable to Filipinos who have small to average body frame and height. Of which Underweight is still be less than 18.5 like the WHO Classification, Normal is equal to 18.5 to 22.9, Overweight is 23 to 24.9, and Obese is more than or equal to 25. BMI can be calculated using the formula: $BMI = \text{weight in kg} / (\text{Height in cm})^2$.

Table 3. Nutritional Status of Local Government Employees in Alfonso Castañeda, Nueva Vizcaya based on Initial and Final Anthropometric (BMI)

Initial Anthropometric			Final Anthropometric			Difference
	<i>f</i>	%		<i>f</i>	%	
Normal	53	30.3	Normal	54	30.9	.6
Overweight	49	28.0	Overweight	38	21.7	-6.3
Obese	70	40.0	Obese	80	45.7	5.7
Underweight	3	1.7	Underweight	3	1.7	0
Total	175	100.0	Total	175	100.0	

Table 3 shows the Nutritional Status using BMI of the local government employees across varied roles and responsibilities residing in Alfonso Castañeda, Nueva Vizcaya across different anthropometric categories in both the initial and final examinations. During the initial assessment, 30.3% of the people were classified as having a normal anthropometric status, 28.0% as overweight, and 40.0% as obese. Only 1.7% of the population was classed as underweight.

The final evaluation revealed a little increase in the percentage of people classified as normal (30.9%) and a drop in the percentage classified as overweight (21.7%). However, the proportion of people classed as obese rose to



ETCOR Educational Research Center Inc.
SEC Reg. No. 2024020137294-00
Sta. Ana, Pampanga, Philippines

INTERNATIONAL MULTIDISCIPLINARY RESEARCH CONFERENCE



Website: <https://etcor.org>



iJOINED ETCOR
P - ISSN 2984-7567
E - ISSN 2945-3577



The Exigency
P - ISSN 2984-7842
E - ISSN 1908-3181

45.7% this might be influenced by the ongoing “Kasipegan” festival with plenty of foods anywhere in the municipality. The percentage of underweight people remained unchanged at 1.7% in both assessments. These findings imply a shift in the distribution of anthropometric categories between the initial and final examinations, with significant alterations. This shift emphasizes the importance of ongoing efforts to address and manage weight-related issues among local government employees, as well as the need for targeted interventions that promote healthy weight management practices and reduce the risk of obesity-related health complications.

In the initial assessment of the nutritional status using BMI of local government employees in Alfonso Castañeda, Nueva Vizcaya, the data showed that out of a total of 175 employees, 30.3% were categorized as having a normal nutritional status, 28.0% were classified as overweight, 40.0% fell under the obese category, and only 1.7% were considered underweight. This initial anthropometric assessment served as a baseline to understand the distribution of different nutritional statuses among the employees before any interventions or changes.

After a certain period, the final anthropometric assessment was conducted to evaluate any changes in the employees' nutritional status. The data revealed that the percentage of employees with a normal nutritional status slightly increased from 30.3% to 30.9%. The percentage of overweight employees decreased from 28.0% to 21.7%, indicating an improvement. However, the percentage of obese employees increased from 40.0% to 45.7%. The percentage of underweight employees remained the same at 1.7%. These final measurements indicate the outcomes of potential interventions or changes in the employees' nutritional status over time.

Analyzing the difference between the initial and final anthropometric measurements provides insights into the changes in the employees' nutritional status. The data show that there was a slight improvement in the normal category by 0.6%. Notably, there was a significant decrease in the overweight category by 6.3%, suggesting positive changes. However, there was an increase of 5.7% in the obese category, indicating a concerning trend. The percentage of underweight employees remained constant. Overall, these differences highlight the shifts in the nutritional status of local government employees in Alfonso Castañeda, Nueva Vizcaya over the assessment period.

Waist Hip Ratio

Table 4. Nutritional Status of Local Government Employees in Alfonso Castañeda, Nueva Vizcaya based on Initial and Final Anthropometric (WHR)

	Initial Anthropometric		Final Anthropometric			Difference
	f	%		f	%	
Low Risk	24	13.7	Low Risk	28	16	2.3
Moderate Risk	43	24.6	Moderate Risk	32	18.3	-6.3
High Risk	108	61.7	High Risk	115	65.7	4
Total	175	100.0	Total	175	100.0	

Table 4 compares the nutritional status of local government employees in Alfonso Castañeda, Nueva Vizcaya, by examining their Waist-to-Hip Ratio (WHR) derived from the initial anthropometric measurement held on March 11, 2024 and final anthropometric measurements held on May 8, 2024. Initially, 13.7% of employees fell into the Low-Risk category, while 24.6% were at Moderate Risk, and 61.7% were classified as High Risk. By the final assessment, these figures shifted: 16 % of employees were in the Low-risk category and Moderate Risk category decreased to 18.3%, and high-risk category shifted also to 65.7%.

These changes suggest a slight improvement in the Low-Risk category (up by 2.3%), a significant reduction in the Moderate Risk category (down by 6.3%), and an increase in the Obese category (up by 4%). This indicates that while there was some progress, with more employees achieving low-risk category of having lifestyle diseases, there was also a concerning rise in the number of employees classified as high-risk. This might be the effect of the event “Kasipegan” where the participants set aside the value of healthy eating. The nutrition lecture which was held at the municipal alley after the flag ceremony on April 8, 2024 was also the start of the preparation for the celebration of the town fiesta “Kasipegan”, and there were plenty of foods.



ETCOR Educational Research Center Inc.
SEC Reg. No. 2024020137294-00
Sta. Ana, Pampanga, Philippines

INTERNATIONAL MULTIDISCIPLINARY RESEARCH CONFERENCE



Website: <https://etcor.org>



iJOINED ETCOR
P - ISSN 2984-7567
E - ISSN 2945-3577



The Exigency
P - ISSN 2984-7842
E - ISSN 1908-3181



According to the Harvard Health Publishing. (2021, February 15) in their study, "Why stress causes people to overeat. Harvard Health Blog" stress (whether good or bad) tends to trigger hormonal changes that increases appetite for comfort foods- sugary and fatty. LGU employees might be stress -they may be happy or excited about the festival happenings or they may be pressured for their preparation for activities. This phenomenon may explain why nutrition lecture at some point is not effective.

Nutrition Education a Mediating Factor between Nutritional Status and Nutrition

Table 5. Relationship between Nutrition Knowledge and Nutritional Status after the Intervention of Nutrition Education among Individuals in Alfonso Castañeda, Nueva Vizcaya Correlations

		Post Evaluation	Final Anthrop	Description
Post Evaluation	Pearson Correlation	1	.026	
	Sig. (2-tailed)		.729	Not significant
	N	175	175	
Final Anthrop	Pearson Correlation	.026	1	
	Sig. (2-tailed)	.729		Not significant
	N	175	175	

Significant at p < .05

Table 5 shows the relationship between the nutritional status and nutrition 48 knowledge after the intervention of nutritional education. The nutritional status and nutritional knowledge after the intervention of nutritional education had no statistically significant relationship (r= 0.026, n=175, p=0.729). The results revealed that there was a very weak correlation between the nutrition knowledge and nutritional status. Therefore, we fail to reject the null hypothesis of no correlation between the nutritional status and nutritional knowledge. This suggests that there is no statistically significant linear 17 relationship between the final anthropometric status and the post-evaluation nutrition knowledge scores among the sample of 175 individuals. These results also suggest that while the nutritional education intervention may have improved participants' knowledge about nutrition, it did not necessarily translate into significant changes in their nutritional status, as measured by anthropometric indicators.

Table 6. Proposed Measures to Solve the Prevailing Problems Experienced by the Respondents

Measure	Objective	Strategy	Expected output
<i>Nutrition Assessment:</i> Inclusion of Free Nutrition Assessment of LGU Employees in Annual Physical Exam	To figure out how nutritionally well are the LGU employees of Alfonso Castañeda.	MNAO to invite Regional Nutrition Council to deploy local Registered Nutritionist Dietitian to conduct assessment in the area.	Existence of updated data on Nutritional Status of LGU Employees of Alfonso Castañeda Awareness of each of the employees of their Nutritional Status.
<i>Nutrition Lecture:</i> Conduct of Nutrition Lecture within the LGU employees every year during Nutrition Month	To enhance the awareness of LGU employees about the importance of nutrition in their overall health.	Inclusion of Nutrition Education (Nutrition Lecture, Trainings, Seminars, etc.) as part of the program during nutrition month.	Increased awareness of the LGU employees and Alfonso Castañeda community about basics of Nutrition.



ETCOR Educational Research Center Inc.
SEC Reg. No. 2024020137294-00

Sta. Ana, Pampanga, Philippines



Website: <https://etcor.org>

**INTERNATIONAL
 MULTIDISCIPLINARY
 RESEARCH CONFERENCE**



iJOINED ETCOR
P - ISSN 2984-7567
E - ISSN 2945-3577



The Exigency
P - ISSN 2984-7842
E - ISSN 1908-3181

<i>Provision of Employee Canteen</i> serving nutrient-dense food options	To improve dietary quality by ensuring that all employee have access to affordable and nutritious food choices.	Collaboration with the Municipal Legislator or the Sangguniang Bayan Members and MNO	Consumption of LGU Employees of more nutrient-dense foods avoiding ultra-processed ones
<i>Provision of Trainings to BHWs and BNS.</i> 'As they were the frontliners to conduct basic nutrition education to the community.	To capacitate them to conduct basic nutrition education for the community.	Planning, Development of training materials, Implementation, Monitoring and evaluation and Capacity Building	Improved community health education Sustainable community engagement Data and insights for future programs
<i>Evaluation of the current situation of the food system,</i> pinpointing areas for development, and devising plans for building a more resilient and sustainable food system	To encourage the creation of environmental-friendly food systems that boost regional agriculture, cut down on food waste, and improve community food security.	Encourage home gardening and community gardening initiatives to increase access to fresh, locally grown produce and promote healthy eating habits.	Enhanced food security and access to nutritious food options for community members.
<i>Develop an anti-Overweight/Obese Program</i> for Healthy Living	To advocate healthy working environment and avoid obesity	Create a systematic program and provide incentives	Full participation of employees for incentivization, healthier workforce

Based on the results of the study, the Proposed Measures as shown in Table 6 is presented.

Conclusion

The researcher has drawn the following conclusions from the findings of the study:

1. The same group demonstrated a significant increase in nutrition knowledge, earning them a high proficiency classification. This shift indicates that the intervention or instructional activities were successful in improving the understanding of nutrition-related issues within the local government personnel. The improvement indicates the possibility of more informed decision-making and activities addressing nutrition policies, initiatives, and public health interventions in the community. As such, these findings highlight the significance and efficacy of focused educational interventions in developing a more knowledgeable and skilled workforce to address public health challenges, particularly in nutrition-related domains.
2. The findings of the nutritional status after nutrition education intervention suggest that, while some progress has been made in reducing overweight cases and promoting normal weight, the persistent increase in obesity rates indicates a need for more targeted efforts in promoting healthy habits and combating weight-related disorders. Moving forward, ongoing monitoring and deliberate interventions are essential for addressing the complex interplay of factors that contribute to weight-related diseases and access to resources for healthy living.
3. The post-evaluation analysis of the nutrition education intervention shows a significant improvement in participants' nutrition knowledge, demonstrating not only an increase in overall understanding but also a decrease in the diversity of knowledge levels postintervention. These findings highlight the intervention's effectiveness in boosting employees' understanding of nutrition-related subjects, implying potential



ETCOR Educational Research Center Inc.
SEC Reg. No. 2024020137294-00

Sta. Ana, Pampanga, Philippines



Website: <https://etcor.org>

INTERNATIONAL
MULTIDISCIPLINARY
RESEARCH CONFERENCE



iJOINED ETCOR
P - ISSN 2984-7567
E - ISSN 2945-3577



The Exigency
P - ISSN 2984-7842
E - ISSN 1908-3181

advantages for both individual health outcomes and organizational well-being from increased staff nutritional knowledge. The established success of such programs highlights the importance of continuous investment in workplace nutrition education campaigns to sustain these benefits over time, producing a healthier and more knowledgeable workforce.

4. The lack of a statistically significant relationship between nutritional status and nutrition knowledge following the nutritional education intervention suggests that, while the program improved participants' understanding of nutrition, it had no direct impact on their anthropometric measurements or overall nutritional status. This emphasizes the difficulty of converting knowledge into behavior change and the need for comprehensive approaches that address not only knowledge but also environmental, social, and behavioral factors that influence food patterns and health outcomes.
5. The fact that nutrition education does not mediate the link between nutritional status and knowledge shows that variables other than information acquisition play an important role in shaping dietary habits. Socioeconomic status, availability to healthy food options, and individual dietary preferences are among the many factors that influence dietary patterns and nutritional results. This emphasizes the importance of comprehensive approaches to nutrition interventions that target not just knowledge dissemination but also structural and behavioral drivers of eating choices.
6. Addressing responders' concerns on nutrition knowledge and nutritional status requires a multifaceted strategy. Practical interventions such as cooking demos and gardening lectures improve nutritional literacy, while increasing access to inexpensive, nutritious food is critical, especially in underserved communities. Investing in food justice measures, such as minimizing food deserts and bolstering local food systems, encourages fair access to healthful foods. Policies that encourage farm-to-consumer sales and urban agriculture improve food security and environmental sustainability. These initiatives help to create healthier, more resilient communities.
7. In conclusion, comprehensive public health policies are crucial for addressing nutrition-related concerns, particularly by considering socioeconomic factors like income disparity and resource availability. Tailored equity-focused programs for marginalized populations and cross-sector collaboration are essential elements in this endeavor. Informed decision-making by public officials, based on data and evidence, is vital for efficient resource allocation and targeted care for those most in need. By implementing these strategies, communities can work towards creating a more equitable and healthier society for all.

Recommendations

The conclusions drawn from the findings of the study helped the researcher in coming up with the following recommendations:

1. Prioritizing the creation and execution of comprehensive public health policies that tackle issues related to nutrition from a socioeconomic perspective is something that policymakers should do. Creating laws to support regional food systems, promote agriculture and fair access to wholesome food is part of this.
2. Program designers for public health should develop different interventions that incorporate hands-on, practical activities like cooking demos and gardening workshops with nutrition education. To maximize efficacy and durability, programs should also emphasize expanding access to reasonably priced, healthful meals and consider the varied socioeconomic backgrounds of the target groups.
3. Health organizations should make investments in ongoing nutrition education for the people they work with and the communities they serve. Public awareness campaigns and frequent training sessions can help achieve this. Agencies should also address social determinants of health and make sure that wholesome food can be easily accessible in order to foster conditions that encourage healthy lifestyle choices to include the proposed measure which is the LGU Employees' Canteen.
4. The long-term sequel of nutrition education programs on knowledge and behavior ought to be the primary emphasis of education researcher. In order to better understand how to create educational interventions that are more effective and produce good health outcomes, studies should examine the several aspects that affect the conversion of knowledge into action.
5. Incorporating nutrition education into routine patient contacts and community outreach endeavors is recommended for health practitioners. They should collaborate with other sectors to support their patients in



ETCOR Educational Research Center Inc.
SEC Reg. No. 2024020137294-00

Sta. Ana, Pampanga, Philippines

INTERNATIONAL
MULTIDISCIPLINARY
RESEARCH CONFERENCE



Website: <https://etcor.org>



iJOINED ETCOR
P - ISSN 2984-7567
E - ISSN 2945-3577



The Exigency
P - ISSN 2984-7842
E - ISSN 1908-3181

making better choices, and they should push for holistic approaches that take behavioral and environmental aspects into account when influencing eating patterns.

6. Play an active role in advancing food justice and equity through their support of programs that address food deserts and provide access to affordable wholesome food. This entails supporting regional food systems, promoting urban agriculture, and making certain that everyone in the community, especially those living in underprivileged regions, has access to a variety of healthful food options.
7. Community Leaders such as Barangay Captains or Purok Leaders should make it a priority to promote food justice and equity by endorsing programs that improve access to affordable, nutrient-dense food and lessen food deserts. This can be accomplished through supporting urban agriculture, local food systems, and making sure that everyone in the community has access to a variety of healthful food options.
8. Non-Profit organizations should concentrate on developing and promoting initiatives that broaden access to wholesome food and educate people about good eating practices. Sustainable food projects, such food cooperatives and community gardens, can be developed in partnership with the local community to promote long-term food security and nutritional well-being.
9. Local businesses to increase access to healthful meals, local companies especially those in the food sector, should collaborate with neighborhood projects. Businesses may significantly improve the general health of the community by taking part in farm-to-table initiatives, providing wholesome options, and assisting regional food producers. To further promote regional health efforts, corporations can also sponsor or organize community nutrition education activities.
10. This study would be beneficial for future researchers to look at the relationship between socioeconomic position, dietary knowledge, and actual health consequences. Studies that follow participants over time are significant to determine the continuing effects of nutrition education and to find efficient methods for transforming knowledge into better behavior.

Working in tandem with disciplines like urban planning and social sciences can offer a comprehensive perspective on the problems and potential solutions.

REFERENCES

- Apuke, O. (2017). Quantitative Research Methods : A Synopsis Approach. *Arabian Journal of Business and Management Review (kuwait Chapter)*. 6. 40-47. 10.12816/0040336.
- Kobylińska, M., Antosik, K., Decyk, A., and Kurowska, K. (2022). Malnutrition in Obesity: Is It Possible? *Obes Facts*. 2022 Jan; 15(1): 19–25. Published online 2021 Nov 8. <https://doi.org/10.1159/000519503>
- Nguyen, B. T., Ford, C. N., Yaroch, A. L., Shuval, K., & Drope, J. (2017). Food Security and Weight Status in Children: Interactions With Food Assistance Programs. *American Journal of Preventive Medicine*, 52(2), S138–S144. <https://doi.org/10.1016/j.amepre.2016.09.009>.
- Platon-Desnacido, J., Dasco, M.A.P., Ducay, A.J.D., Duante, C.A., and Angeles-Agdeppa, I., (2021). Determinants of Overweight/Obesity among Filipino Adolescents: 2018 Expanded National Nutrition Survey. *Philippine Journal of Science* 151 (4): 14631476, August 2022 ISSN 0031 - 7683. Date Received: 15 Dec 2021. https://www.google.com/url?sa=t&source=web&rct=j&opi=89978449&url=https://philjournalsci.dost.gov.ph/images/pdf/pjs_pdf/vol151no4/determinants_of_overweight_obesity_among_Filipino_adolescents_.pdf&ved=2ahUKewj857jPs_WGAXxWI-DgGHXACBrgQFnoECDsQAQ&usq=AOvVaw2veinnt9Kt7ubYNUUpQb8L
- World Health Organization. (2024, March 1). Malnutrition. Retrieved from World Health Organization: <https://www.who.int/news-room/factsheets/detail/malnutrition#:~:text=In%202022%2C%20approximately%20390%20million,who%20were%20living%20with%20obesity.>