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Level of Cookery Competency Among 4'ps Mothers in Magtuod Davao City, Philippines: Basis for Intervention

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ABSTRACT

The purpose of this study was to determine the level of cookery competency among 4'Ps mothers in Magtuod, Davao City. Descriptive correlational design was utilized in this study. The data were obtained from the 4'Ps mothers in Magtuod, Davao City, Philippines. The questionnaire used in this study is from the books of hygiene and sanitation and Cookery or Culinary Arts and Science. Mean was used to determine the level of cookery competency of 4'Ps Mothers of Magtuod, Maa, Davao City. Mann-Whitney U Test and The Welch's ANOVA was used to determine the significant difference on the level of cookery competency of 4'Ps Mothers of Magtuod, Maa, Davao City. The Findings of the study revealed that the level of cookery competency of 4'Ps Mothers of Magtuod, Maa, Davao City in terms of food safety, menu composition and food preparation is moderate This means that the respondent moderately agrees with the embodied statement in each variable. Furthermore, there is no significant difference between food safety, menu composition, and food preparation when analyzed according to the age, number of children in the family and educational attainment of the respondents. This implies that food safety, menu composition, and food preparation are very important factors that needs to consider in preparing and cooking food for the family, thus the respondents of the study moderately understand its importance the result of this study is useful in developing a training program that may enhance and develop the knowledge and skills of the 4'Ps beneficiaries. Moreover, the result of the study shows that food safety, menu composition, and food preparation does not differ from the age, number of children in the family and educational attainment this indicates that knowledge and skills in basic food cooking can be learned and understand by different age generation even how many members in the family and educational attainment of the person.

Keywords: Cookery, Competency, 4Ps Mothers, Davao City, Philippines, Intervention

INTRODUCTION

Background of the Study

Food safety is one of the major concerns of every household, according to Nummer, Schaffner, Fraser, & Andress, (2011) there are different microorganism that are considered to be a hazard that usually contaminate the food that became a reason why food is not safe to eat. Kashima, Matsumoto & Ishii, (2009) stipulated that another problem of households nowadays are the lack of knowledge in terms of menu composition, majority of the household don't usually plan their meal ahead of time and don't even identify the benefits they get out from preparing the dish. Skills in food preparation is very important in the kitchen common issues about food preparation are lack of idea about hygiene, sanitation and many person who usually prepare

the food in the household don't usually identify the HACCP (Hazard Analysis Critical Control Point) which usually lead to foodborne illness and malnutrition to the family (Schaefer, 2015).

The United Nations Food and Agriculture Organization estimates that about 795 million people of the 7.3 billion people in the world, or one in nine, were suffering from chronic undernourishment in 2014-2016, almost all the hungry people, 780 million, live in developing countries, representing 12.9 percent, or one in eight, of the population of developing counties. There are 11 million people undernourished in developed countries (Food and Agriculture Organization, 2014). World population a large world population does make it more difficult to provide a decent standard of living for all. Population growth rates have dropped substantially over the last 50 years. See Population Reference (Bureau 2014) for analysis of population trends.

Malnutrition is also a cause of poverty, and thus of hunger. By causing poor health, small body size, low levels of energy, and reductions in mental functioning, hunger can lead to even greater poverty by reducing people's ability to work and learn, thus leading to even greater hunger (Smith & Haddad, 2015).

In the Philippines, only 63.2 per cent of children 6-23 months old reach the minimum variety of foods for a good diet. Twenty-eight per cent of children under 5 were moderately or severely malnourished in 2008-2014. It is also estimated that malnutrition is an underlying condition in more than a third of deaths of children younger than five years. Severely wasted children have a high likelihood of dying if they don't receive appropriate treatment. The long term effects of malnutrition are impaired learning and development and reduced income earning potential as adults (Zambrano, 2015).

Malnutrition is the result of other factors, including socioeconomic challenges like high unemployment. In the Philippines, over 2.9 million people are struggling to obtain stable employment; a rate that has increased from 6.8 percent in 2012, to over 7.1 percent in 2014. Moreover, due to high food prices, 28 million people cannot even afford to purchase enough food to satisfy their family's food needs (Cannon, 2014).

Many children in Davao City are suffering from Severe Acute Malnutrition (SAM), a condition that puts these kids at risk of dying nine times more than others. Ironically, data bared by the city health officer indicated that most SAM victims are found in the urban barangays, particularly where there is concentration of informal settlers, of families that live in houses build on squatted lands (Ajero, 2013).

This study was being conducted to identify the common problem with regards to food safety, menu composition, and food preparation to identify the problem with regards to identifying the level of cookery competency among 4'Ps mothers in Magtuod, Davao City.

Statement of the Problem

This study was conducted to determine the level of cookery competency among 4'Ps mothers in Magtuod, Davao City.

1. What is the level of cookery competency among the 4'Ps beneficiaries in Magtuod, Davao City in terms of:

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1.1. Food safety;
1.2. Menu Composition; and
1.3. Food Preparation
2. Is there a significant difference between the level of cooker competency among 4'Ps beneficiaries in Magtuod, Davao City when analyzed according to profile of respondents.

Hypothesis
Ho1: There is no significant difference between the level of cooker competency among 4'Ps beneficiaries in Magtuod, Davao City when analyzed according to profile of respondents.

Theoretical Framework
This study was anchored to the theory of Osnyder (1994) in principles of cooking, the author made mention about the food safety hazards and controls for the home food preparer that to identify the competency to every food handler we should always identify and consider the following the food safety, menu composition, and food preparation. Food safety by identifying the different hazard namely the biological, chemical, and physical hazard and avoid this hazard to prevent food contamination and food poisoning, menu planning to have a basic knowledge on how to prepare and plan the dish ahead of time and identify the benefits of advance planning in preparing the food all of this aspects will avoid different health problems such as malnutrition.

Significance of the Study
This study was deemed significant to the following in identifying the level of cookery competency among 4'Ps beneficiaries in Magtuod davao City:
4'Ps Beneficiaries. This study might help the 4P's beneficiaries understand the importance of food safety, menu composition, and food preparation in the family.

University of Mindanao. This study might support the University of Mindanao to their goal in engaging in community services that foster self-reliance and empowerment among the marginalize community, the society is changing and to produce an individual who gives importance to the community with an excellent character, the university needs to also know what the trend is and what is happening in the community.

Future Researchers. The future researchers could derive and get an idea on what the society's state and trend that needs more researching from this study. This might also guide the researchers in doing their research.

Definition of Terms
The following terms were used operationally and conceptually in the study:
Cookery. It refers to the art or practice of preparing food. In this research cookery is used to identify the level of cooking skills of the respondents in the study.

Competency. The ability to do something successfully or efficiently, operationally the term competency is used in this study to assess the level of competence of the respondents.

4'Ps. Refers to Pantawid Pamilyang Pilipino Program. In English it refers to Bridging Program for the Filipino Family, also known as 4Ps and formerly Ahon Pamilyang Pilipino, is

a conditional cash transfer program of the Philippine government under the Department of Social Welfare and Development. It aims to eradicate extreme poverty in the Philippines by investing in health and education particularly in ages 0–14. It is patterned on programs in other developing countries like Brazil Bolsa Familia and Mexico Oportunidades. The 4Ps program now operates in 17 regions, 79 provinces and 1,484 municipalities and 143 key cities covering 4,090,667 household beneficiaries as of 25 June 2014.

METHOD

To determine the results of the study, several methods were employed such as: research design, research respondents, research instrument, design and procedure, and statistical tools used in the study.

Research Design

This quantitative study utilized descriptive correlational and causal comparative approach as the research design. Quantitative research is the systematic empirical investigation of observable phenomena via statistical, mathematical or computational techniques. According to Cohen, West and Aiken, (2014) the objective of quantitative research is to develop and employ mathematical models, theories and hypotheses pertaining to phenomena. The process of measurement is central to quantitative research because it provides the fundamental connection between empirical observation and mathematical expression of quantitative relationships (Phan & Nguyen, 2016).

This study used descriptive research design. According to Mertens (2014) using this method enables the researchers to gather pertinent data through conducting survey to determine the results of the study. Selamat (2008) stated that descriptive survey or normative survey relies on the questions given to the willing participants and later on summarizes the responses with percentages, frequency counts or more statistical indexes. From these summaries, the researchers draw inferences, conclusions and findings to the study. Descriptive correlational refers to a type of study in which information is collected without making any changes to the study subject; in addition, descriptive correlation allows examination of the strength of the associations among the variables (Becker, Atinc, Breaugh, Carlson, Edwards, Spector, 2016).

Selamat also added that survey reports, were often suggested that in one sample population at one particular time, that was found by the researchers can be accepted for all the time as constant. Descriptive survey depends on the kind of information sought by the researchers. It can be an interview through a telephone or face-to-face and a written questionnaire. The researchers will gather information and data through a questionnaire to know the level of cookery competency among 4'Ps mothers in Magtuod, Davao City, which the results employed the use of description as the means of presenting the study.

Ethical Consideration

The research respondents were encouraged by the researcher with the approval of the University of Mindanao Community Extensions Office and with the 4'Ps beneficiaries. Transmittal of the questionnaire was based on the official protocols of the University of Mindanao, Davao City, and finally to the 4'Ps mothers of Magtuod, Davao City. They were informed that they were free to withdraw from the survey at any time should they feel the need to do so.

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The consent of the respondents was sought. The consent form contains the objectives, methods, and potential benefits of the study. Information on the burden of time required to complete the questionnaire was offered. The 4'Ps mothers of Magtuod, Davao City as the respondents of the study were given enough time to complete the survey questionnaires. Confidentiality of the responses was maintained.

Research Respondents

The respondents of this study were the 4P's Mothers beneficiaries of Magtuod, Davao City. The researcher decided to focus on the mothers as the respondents of the study since they are usually the one who prepare the food for the entire family. There are 54 4'Ps beneficiaries in Magtuod, Davao City (DSWD, 2017). Out of the 54 beneficiaries 49 respondents answered the survey questionnaire.

In selecting the respondents, purposive sampling method was employed. Purposive sampling is a non-probability sample that is selected based on characteristics of a population and the objective of the study (Finch, 2013). This type of sampling can be very useful in situations when there is a need to reach a targeted sample quickly, and where sampling for proportionality is not the main concern (Crossman, 2017).

Due to the nature of this research, a number of limitations were observed. First, the included research respondents were the 4P's beneficiaries of Magtuod, Davao City. Second, the respondent of the study were Mothers of the 4P's beneficiaries since they are usually the one who prepares the meals for the family. On the other hand, Family members in the community which are not beneficiaries of the 4P's program were excluded in the study, since the research focuses on the 4'Ps beneficiaries in Magtuod davao City. The study also focuses on the Magtuod Davao City since it is one othe partner community of the University of Mindanao.

Demographic Profile of Respondents

Table 1 exhibits the demographic profile of the respondents in terms of age, number of children and educational attainment, in terms of age the result shows that there is only 1 respondent who age 19 years old or 2.04 percent of the respondents, while there are two respondents who come from the age of 20 – 24 years old. This means that there are only few mothers in Magtuod who are considered to be young mothers. There are more number of respondent mothers who belong to the age 25 – 29 or 20.41 percent of the respondents, while majority of the respondents are from the age 30-34 years old or 26.53 percent of the total number of respondents.

Table 1: Demographic Profile of Respondents

AGE	Frequency	Percent
19 below	1	2.04%
20-24	2	4.08%
25-29	10	20.41%
30-34	13	26.53%
35-39	9	18.37%
40-44	7	14.29%
45-49	2	4.08%

50-54	2	4.08%
55-59	1	2.04%
60 above	2	4.08%
# OF CHILDREN		
1-5	39	79.59%
6-10	9	18.37%
10 above	1	2.04%
EDUCATIONAL ATTAINMENT		
Elementary Level	6	12.24%
Elementary Graduate	4	8.16%
High School Level	20	40.82%
High School Graduate	18	36.73%
College Level	1	2.04%
College Graduate	0	0%
TOTAL	**49**	**100%**

There are also many respondents who belong to the age 35 – 39 years old. This means that majority of the respondents who answered the survey questionnaire belong to the age 25 – 39 years old. There are also seven respondents who belong to the age of 40 – 44 years old and 2 respondents from the age 45 – 49 years old the same with the 50 to 54 years old while there is only one respondent who belong to the bracket of 55-59 years old. There are two mothers in this study who belong to the age of 60 and above. It shows that majority of the mothers in Magtu-od, Davao City are not that old enough.

In term of the number of children, the result shows that majority of the 4P's mothers in Magtu-od, Davao City have one to five number of children which is represented by 39 or 79.59 percent of the respondents. While 18.37 percent of them have 6 – 10 number of children or 18.37 percent of the respondents, while there is only one respondent who has a 10 and above number of children among the respondents.

In terms of educational attainment, there are 6 or 12.24 percent of the respondents who belong to the elementary level, while there are 4 or 8.16 percent who graduated from elementary. Majority of the respondents in this study are high school level and it is represented by 20 0r 40.82 percent of the respondents. There are also many respondents who graduated from high school 18 or 36.73 percent of them. There is only one respondent who reached college while none of them graduated from any course in college.

Research Instrument

The research instrument used in this study is from the topics of hygiene and sanitation and Cookery or Culinary Arts and Science books. It was also validated by the experts of the research topic.

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The variable of the study was related based on the following scale in the result of the study

Level	Range of Means	Verbal Description	Interpretation
5	4.21-5.00	Very High	This means that the respondent strongly agrees with the embodied statement.
4	3.44-4.20	High	This means that the respondent agrees with the embodied statement
3	2.61-3.40	Moderate	This means that the respondent moderately agrees with the embodied statement.
2	1.81-2.60	Low	This means that the respondent slightly disagrees with the embodied statement.
1	1.00-1.80	Very Low	This means that the respondents strongly disagrees with the embodied statement

Design and Procedure

The following were the steps in gathering the data:

Permission to Conduct the Study. The researcher sought the approval of the panel to conduct the study through a title defense. The researcher made a preliminary interview on the possible problems that the college can address in order to cater the needs of the community with the help of the community extensions office after the preliminary interview, the researcher sent a letter request to the barangay Magtuod Maa, Davao City, asking permission to conduct the study to identify if there is really a need in the community.

Construction and validation of questionnaire. The researcher sought indicators that correspond to the level of cookery competency. Profile of the respondents was also indicated in the questionnaire to know if there is a difference between age, educational attainment and number of children of the respondents.

Administration of the Instrument. Questionnaires were distributed personally. The researcher set a specific schedule for the time and place of distribution of questionnaires in barangay hall of Magtuod, Maa, Davao City.

Collecting and Analyzing Data. Lastly, the questionnaires were retrieved and data were collected and analyzed.

Statistical Tools

The following statistical tools were employed in the treatment of the data:

Frequency Count. This was used to determine the exact number of the respondents according to their respective profiles.

Percentage. This was used to determine the exact percentage of the respondents according to their respective profiles.

Mean. This was used to determine the level of cookery competency of 4'Ps Mothers of Magtuod, Maa, Davao City.

Mann-Whitney U Test. This was used to determine the significant difference on the level of cookery competency of 4'Ps Mothers of Magtuod, Maa, Davao City when analyzed according to the number of children of the respondets.

The Welch's ANOVA. This was used to determine the significant difference on the level of cookery competency of 4'Ps Mothers of Magtuod, Maa, Davao City when analyzed a ˙˙ng to the educational attainment and age of the respondents.

RESULTS AND DISCUSSION

This chapter deals with the presentation, analysis, and interpretation of the data. The first part describes the levels cookery competency among the 4'Ps beneficiaries in Magtuod Davao City in terms of food safety, menu composition, and food preparation. The second part exhibits the significant difference between the level of cookery competency among 4'Ps beneficiaries in Magtuod Davao City when analyzed according to the profile of respondents.

Table 2: Level of cookery competency among the 4'Ps beneficiaries in Magtuod, Davao City in terms Food safety

Item	Mean	Descriptive Level
1. Using different kinds of chopping board to avoid cross contamination.	2.69	Moderate
2. Segregate and separate the containers for fruits, vegetables, meat and etc.	2.87	Moderate
3. Follow exact and correct temperature in preparing and or cooking the food.	2.77	Moderate

Level of cookery competency among the 4'Ps beneficiaries in Magtuod, Davao City in terms Food safety

Table 2 shows the result for the Food safety practices of the respondents in Magtu-od, Davao City. The result shows that the 4'Ps mothers who are the beneficiaries of the study are not following the correct food safety procedure in preparing their food. It shows in the result of their *usage in different kinds of chopping board* with a mean of 2.69 which means that they are just doing it sometimes. *Separating their ingredients* before storing it also shows that they are not properly practicing it, with a mean of 2.87 which means that they are just doing it sometimes. The same with the *following the right temperature* majority of the respondents are not observing right temperature in preparing their meal. Safe steps in food handling, cooking, and storage are essential to prevent foodborne illness. You can't see, smell, or taste harmful bacteria that may cause illness.

According to the United States Department of Agriculture (2013) that using the right tools for every food preparation and cooking will help minimize the possible foodborne illnesses, the organization also emphasizes the importance of proper storage by making sure that the containers that are being used as storage for different ingredients are clean and separated and segregated per ingredients as indicated the food handler must always observe the following

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Always wash hands before and after handling food. Don't cross-contaminate. Keep raw meat, poultry, fish, and their juices away from other food. After cutting raw meats, wash hands, cutting board, knife, and counter tops with hot, soapy water. Marinate meat and poultry in a covered dish in the refrigerator. Sanitize cutting boards by using a solution of 1 teaspoon chlorine bleach in 1 quart of water.

Rajendran (2010) made mention about the HACCP (Hazard Analysis Critical Control Point) it applies to all organizations in the food chain and even in the household as well. It doesn't matter how complex the organization or family orientation is that. An ideal food safety management system: Meets the food safety policy and achieve the measurable objectives related to the policy Meets performance of "effectiveness" (extent to which planned activities are realized and planned results achieved) and "efficiency" (relationship between the results achieved and the resources needed). Applies proven management principles aimed at continually improving performance over the long term by focusing on customers while addressing the needs of all other stakeholders (Alleweldt, 2013).

Stated by Merkle (2014) every household must make sure that the family are safe from any hazard that may lead to different problems in the future, this biological, chemical and, physical hazard can be avoided if the person who prepare the food has a knowledge and skills on how to follow the food safety standard, making sure that the chopping board and knife are washed regularly before and after using it as well as making sure that correct and exact temperature in cooking can kill the micro-organism that can help the family get rid of any problems with regards to foodborne illnesses. Brown (2013) also suggest that if the family members will make sure that the ingredients are well segregated in place of storage it can help its prolonging the lifespan of this ingredients and will avoid this ingredients to become ripped.

Table 3: Level of cookery competency among the 4'Ps beneficiaries in Magtuod, Davao City in terms Menu Composition

Item	Mean	Descriptive Level
1. Follow the sequence of food preparation from (appetizer, soup, salad, main course, dessert)	2.61	Moderate
2. Correct food meal pattern for the time of the day (Breakfast, Lunch, Dinner)	2.71	Moderate
3. Preparing List of food to prepare and or cook for the family	2.26	Low

Level of cookery competency among the 4'Ps beneficiaries in Magtuod, Davao City in terms Menu Composition

Table 3 shows the menu composition ability of the respondents, in the correct sequence of food service and was identified that majority of the respondents are not that particular with regards to following the right sequence of food service. It was represented by the mean of 2.61 which means that they are just observing it sometimes. In preparing right food for the right time I garnered a mean of 2.71 which means that the mothers are just doing it sometimes. Majority of the respondents are not preparing food ahead of time for their family it has a mean of 2.26 or seldom. Planning menus for your family that are budget-friendly, appetizing and nutritious can seem daunting. But, with careful planning you can prepare and serve meals that meet the needs

of your site and participating children. In this section, you will find tips on how to plan your menu.

According to Aberg (2009) unhealthy eating is an increasingly important problem in every household. Our approach to this problem is to provide a meal planning system giving recommendations of suitable food recipes, taking important factors such as nutrient content, cost, variation, etc. into account. A food handler controls how the system takes these factors into account through settings after which the system creates an optimal meal plan such as (appetizer, soup, salad, main course and dessert). The cook can then iteratively refine the settings until a satisfactory meal plan is produced. The system is evaluated empirically in terms of ease of use and perceived usefulness, factors crucial for eventual user acceptance. The results are positive, and several interesting possibilities for future system improvements are discussed.

Food can be grouped together according to the major nutrients they provide, these have been called Core Food Groups. Together they provide the minimum number of serves that meet the recommended intake of the nutrients essential for good health. The minimum number of daily serves needed by adults aged 60+ years, from each group is given in the table below. Remember some people will need more than this depending on appetite and activity level (Lewis, 2008). The recommendations for the minimum amount of Core Foods required to be provided by Meals on Wheels are based on the contribution to the total intake each day of the lunch meal and the additional foods that clients provide themselves. Menus should offer the recommended serves of the Core Food Groups for Meals on Wheels services. It is also important to offer a variety of foods within these groups., plan menus over at least two weeks to ensure a variety of foods and cooking styles, a cycle using two fortnightly menus (four week cycle) works well for many. The texture of foods is particularly important when planning menus for Meals on Wheels services. Many elderly people experience difficulty in chewing and swallowing (Digby, 2008).

Study participants with limited meal preplanning practices were less likely to participate in family meals (Fruh, Mulekar, Hall, Adams, Lemley, Evans, and Dierking, 2013). It is very important for every household to make sure that the family was able to balance its meal from appetizer, soup, salad, main course, and dessert because anything lack can lead to malnutrition and anything in excess in the food can lead to obesity, that's why planning the food at least one week can lessen the problem of every household in the family as well as making a list on the ingredients to purchase and food to prepare can make our life easier inside the kitchen in our nome (Diva, 2013).

Table 4: Level of cookery competency among the 4'Ps beneficiaries in Magtuod, Davao City in terms Food Preparation

Item	Mean	Descriptive Level
1. Making sure that there are right nutrients and minerals in every food that I prepare.	2.85	Moderate
2. Plan and make a list of the food that will be prepared for the week for balance nutrition.	2.65	Moderate
3. Knowing the benefits of every ingredient it gives to my family.	2.85	Moderate

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Level of cookery competency among the 4'Ps beneficiaries in Magtuod, Davao City in terms Food Preparation

Table 4 displays the result for the food preparation, in making sure that the foods are nutritious, the respondents say that they are observing it sometimes with a mean of 2.85. In planning ahead of time, it has a mean of 2.65 of they are just doing it sometimes. Lastly in the level of knowledge of knowing the health benefits the respondents have an overall mean of 2.85 or they are doing it sometimes.

According to Chenhall (2009) the person who prepares and cooks the food for the family must have a knowledge on identifying what are the nutrients and minerals the family members get in the food that they eat, this can be achieved if the chef plan ahead of time and make some continues learning on knowing what's good for the family, with this common problems because of wrong food intake can be avoided and the family can leave a healthy life.

Over the past several decades, a transition or change in cooking and food preparation skills has been hypothesized and observed, which could have an important impact on healthy eating and the health of Canadians, presently and in the future. This transition in cooking and food preparation skills involves the increased use of pre-prepared, packaged and convenience foods, which require fewer and or different skills than what is often referred to as traditional or 'from scratch' cooking (Merkle, 2014).

Keep Food Safe food preparation, Healthy, and Appealing Good food handling practices will help you keep food safe, healthy, and appealing. Properly freeze, thaw, prepare, cook, cool, and serve all foods offered to children. Follow food safety rules about storage, temperature controls, hygiene, and sanitation. Follow local health department codes. Leave room for air to move around stored food in the refrigerator, freezer, and storeroom. Cover all food in the refrigerator and freezer. Date all foods and use oldest foods first. Limit added salt, fat, and sugar in preparation. Use herbs, spices, marinades, stocks, and fruit and vegetable juices to add flavor. Make shapes, size, color, texture, flavor, and quality of foods appealing to children.

Fruits and Vegetables Storing Cover refrigerated fruits and vegetables. Store fruits and vegetables in the refrigerator at 40 °F or lower. Blanch or fully cook fresh fruits and vegetables before freezing. Store potatoes, onions, and uncut winter squash in a cool, dry place at 45-50 °F, at room temperature for only 1 week, washing Use cold running water to wash all fresh fruits and vegetables (Cullis, 2010).

According to Perez et. al., (2006) foodborne illnesses are syndromes that are acquired as a result of eating foods that contain sufficient quantities of poisonous substances or pathogens. Cultural practices place the Hmong at an increased risk for foodborne illnesses resulting from improper food handling, preparation, and storage. The risk for illness is further complicated by the fact that the Hmong have very limited knowledge about food-borne disease and they find themselves in a situation in which they cannot control the space in the house available for food preparation.

People must become nutrition conscious. Print and electronic media pour out nutrition messages to the public. Super markets are flooded with foods of varied types, natural, processed, and ready to eat. The common man turns towards nutrition scientists and dietitians

for scientifically proved information on Nutrition and Dietetics. Hence it is essential that Nutrition and Dietetics is offered at various levels of education (Easwaran, 2014).

Significant difference between the level of cookery competency among 4'Ps beneficiaries in Magtuod Davao City when analyzed according to Age

Table 5 presents the result on the significant difference between the level of cookery competency among 4"Ps beneficiaries in Magtuod Davao City when analyzed according to the age of the respondents. The data show that there are no significant difference between food safety, menu composition, and food preparation when analyzed according to the age of the respondents.

Table 5: Significant difference between the level of cookery competency among 4'Ps beneficiaries in Magtuod Davao City when analyzed according to Age

Variables	Mean	SD	F value	Sig	Decision on Ho
Food safety	2.782	1.2634	1.053	0.418	Accept
Menu Composition	5.531	1.26994	1.19	0.328	Accept
Food Preparation	2.7892	1.40258	0.768	0.646	Accept

This means that despite of the age differences between each respondent it does not affect on the level of knowledge and skills in the aspect knowing the importance of food safety in preparing the food, having knowledge in the area of developing a meal plan, and the ability to prepare a delicious, healthy and nutritious food for the family.

This statement supports the study of USDA, (2013) that the knowledge and skills of the person in terms of food safety, hygiene and sanitation has nothing to deal with the age of the person in the family, thus it focuses more on the practices of the family as to how each members were oriented about the food preparation and cooking process. In addition the Food and Agriculture Organization FOA, (2014) stated that every family member in different age bracket must be knowledgeable in the proper and correct way of food preparation from purchasing to reheating process to avoid problems related to food poisoning.

Significant difference between the level of cookery competency among 4'Ps beneficiaries in Magtuod Davao City when analyzed according to the number of children

Table 6 shows the result on the significant difference between the level of cookery competency among 4"Ps beneficiaries in Magtuod Davao City when analyzed according to the number of children in the family.

Table 6: Significant difference between the level of cookery competency among 4'Ps beneficiaries in Magtuod Davao City when analyzed according to the number of children

Variables	Mean	SD	F value	Sig	Decision on Ho
Food safety	2.782	1.2634	0.74	0.482	Accept
Menu Composition	2.531	1.26994	2.242	0.118	Accept
Food Preparation	2.7892	1.402258	1.616	0.21	Accept

The result of the study shows that there are no significant difference between food safety, menu composition, and food preparation when analyzed according to the number of children in the family of the respondents. This means that despite of how many numbers of children are there

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in the family it does not affect the level of knowledge and skills in the aspect knowing the importance of food safety in preparing the food, having knowledge in the area of developing a meal plan, and the ability to prepare a delicious, healthy and nutritious food for the family. In addition the number of children does not guaranteed that the respondents are well knowledgeable in the area of food safety and sanitation as well as the level of skills in preparing delicious and healthy food.

According to Cannon, (2014) stated that the skills of every individual in the area of knowing how to segregate different ingredients to meet the proper way of storing the food, correct food meal pattern for each time referring to the breakfast, lunch, dinner and snack in between, plan and make a list of the food that will be prepared for the week for balance nutrition has nothing to do with how many are there in the family or the number of children in the family. In addition, Zambrano (2015) emphasize that the knowledge and skills of every individual in proper food process flow and procedure does not reflect to the number of children in the family but in the experience of the person in the field of food process and procedure.

Table 7: Significant difference between the level of cookery competency among 4'Ps beneficiaries in Magtuod Davao City when analyzed according to the Educational Attainment

Variables	Mean	SD	F value	Sig	Decision on Ho
Food safety	2.782	1.2634	0.672	0.615	Accept
Menu Composition	2.531	1.26994	0.637	0.639	Accept
Food Preparation	2.7892	1.40258	1.191	0.328	Accept

Significant difference between the level of cookery competency among 4'Ps beneficiaries in Magtuod Davao City when analyzed according to the Educational Attainment

Table 7 presents the result on the significant difference between the level of cookery competency among 4"Ps beneficiaries in Magtuod Davao City when analyzed according to the educational attainment of the respondents. The data show that there are no significant difference between food safety, menu composition, and food preparation when analyzed according to the educational attainment of the respondent. This means that despite of the educational attainment of the respondents between each respondent it does not effect on the level of knowledge and skills in the aspect knowing the importance of food safety in preparing the food, having knowledge in the area of developing a meal plan, and the ability to prepare a delicious, healthy and nutritious food for the family. The result of the study is to accept the hypothesis for a reason that all of the respondents are in the same area of educational attainment from elementary level to high school graduate. It is one of the reasons because majority of the beneficiaries of pantawid, pamilyang, Pilipino program of the Philippine government are coming from this group of people.

The result of the study contradicts the result of the study of Merkle, (2014) focusing on the importance of educational attainment in attaining better understanding and gaining skills in the area of food safety and proper food preparation. The author highlighted the importance of education in getting correct understanding on the importance of food in human's body. Following the exact and correct temperature in preparing and cooking the food, preparing a list of to be prepared for the family, knowing the benefits of every ingredient may be gained if the person has knowledge in food preparation and these things can be develop by getting and developing educational attainment (Diva, 2013).

CONCLUSION

Majority of the respondents are from the age of 30 to 34 years old, with 1 to five child/children in the family, and majority of them are high school level.

Food safety practices result shows that the 4'Ps mothers are not following the correct food safety procedure in preparing their food in terms of separating their ingredients before storing it also shows that they are not properly practicing it because they are doing it sometimes as well as in following the exact temperature in cooking they are not always observing the right temperature in preparing or cooking the food.

Menu composition ability of the respondents, in the correct sequence of food service it was identified that majority of the respondents are not that particular with regards to following the right sequence of food service. In preparing right food for the right time the 4P's mothers are just doing it sometimes. Majority of the respondents are not preparing food ahead of time for their family. Planning menus for their family that are budget-friendly, appetizing and nutritious can they are not observing it properly.

Food preparation, in making sure that the foods are nutritious the respondents are observing it sometimes which means that they are not particular with it. In planning ahead of time it has just doing it sometimes. Lastly in the level of knowledge of knowing the health benefits the respondents are doing it sometimes, this means that the respondents of the study are not that knowledgeable when it comes to food safety, menu composition, and food preparation.

There is no significant difference between food safety, menu composition, and food preparation when analyzed according to the age, number of children in the family and educational attainment of the respondents.

RECOMMENDATION

The 4'Ps beneficiaries may undergo a seminar and training about food safety ,menu composition and food preparation understanding on the importance of menu planning.

The University of Mindanao College of Hospitality Education Hotel and Restaurant Management Program may create a seminar and training plan for the 4'Ps beneficiaries to develop the skills in the area of food safety, menu composition and food preparation, as part of community extension program of the college.

To identify the competency of the respondents after the training it is highly recommended that the 4'Ps beneficiaries may undergo into a national assessment in TESDA specifically in Cookery NCII to know their level of competence after the seminar and training.

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References

Aberg. J., (2009). An Evaluation of a Meal Planning System: Ease of Use and Perceived Usefulness. https://dl.acm.org/citation.cfm?id=1671045.

Ajero, Antonio. (2013). Deadly malnutrition afflicts city's children. Food safety and Sanitation. http://www.fao.org/docrep/pdf/010/ai799e/ai799e02.pdf.

Alleweldt, F., (2013). Scoping study Delivering on EU food safety and nutrition in 2050 - Scenarios of future change and policy responses Framework Contract for evaluation and evaluation related services - Lot 3: Food Ch.

Becker, T. E., Atinc, G., Breaugh, J. A., Carlson, K. D., Edwards, J. R., & Spector, P. E. (2016). Statistical control in correlational studies: 10 essential recommendations for organizational researchers. Journal of Organizational Behavior, 37(2), 157-167.

Brown, L. (2013). eHS-Net Home and Restaurant Food Safety Studies: What Have We Learned?. https://www.ncbi.nlm.nih.gov/pubmed/23505775. US National Library of Medicine National Institutes of Health Search databaseSearch term Search

Bureau. (2014). Population Reference "2014 World Population Data Sheet."http://www.prb.org/ pdf14/2014-world-population-data sheet_eng.pdf.

Cannon, R. (2014). Malnutrition in the Philippines. http://borgenproject.org/fighting-malnutrition-philippines/.

Cesar G., Linda A., Caroline F., Pedro H., Reynaldo M., Linda R., and Harshpal S. 2008). "Maternal and child undernutrition: consequences for adult health and human capital." Lancet. 2008 Jan 26; 371(9609): 340–357. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2258311/.

Chenhall, C. (2009). Improving cooking and food preparation skills a synthesis of the evidence to inform program and policy development. Government of Canada. https://www.canada.ca/en/health-canada/services/food-nutrition/healthy-eating/children/improving-cooking-food-preparation-skills-synthesis-evidence-inform-program-policy-development-government-canada-2010.html

Cohen, P., West, S. G., & Aiken, L. S. (2014). Applied multiple regression/correlation analysis for the behavioral sciences. Psychology Press.

Crossman, A. (2017). Path Analysis. Statistical Tool, Multiple Regression, Statistical Analysis. https://www.thoughtco.com/purposive-sampling-3026727.

Cullis, G. (2010). Practical Skills for Preparing Quality Meals: A Five Step Process 2010 Breakfast Lunch Training. http://www.mnsna.org/site1/w-content/uploads/2010/07/ICM-Training-Topics.pdf

Digby, P. (2008). Menu Planning and Food Costing Guide to Meals and WheelsServices.http://ww2.health.wa.gov.au/~/media/Files/Corporate/general %20documents/HACC/PDF/8631_Menu_planning_MOW.ashx.

Diva, (2013). Meal Plan, Menu Plan ■ Recipes ■ Shopping List. PCOS Diva LLC http://pcosdiva.com/wp-content/uploads/2013/08/Sample-Meal-Plan.pdf.

DSWD, (2017). Department of Social Welfare and Development. Number of 4P's Pantawid Pamilyang Pilipino Program in Magtuod, Davao City. https://www.dswd.gov.ph/dswd-4ps-beneficiaries-in-davao-del-sur-complete-security-training/. Easwaran, P. (2014). Nutrition and dietetics. Http://www.textbooksonline.tn.nic.in/books/11/std11-nutr-em.pdf.

FAO (2014). Food and Agriculture Organization, International Fund for Agricultural Development, World Food Program. 2015. "The State of Food Insecurity in the World 2014. Strengthening the enabling environment for food security a nutrition. http://www.worldhunger.org/articles/Learn/world%20hunger%20fa.

Finch, S. (2013). Random sampling – A guide for teachers (Years 11–12). https://amsi.org.au/ESA_Senior_Years/PDF/RandomSampling4b.pdf.

Fruh, S., Mulekar, M., Hall, H., Adams, J., Lemley, T., Evans, B., and Dierking, J. (2013) Meal-Planning Practices with Individuals in Health Disparity Zip Codes.

Helson, H. (1948), ``Adaptation-level as a basis for a quantitative theory of frame of reference'', Psychological Review, Vol. 55, November, pp. 279-313.
https://www.iei.liu.se/fek/frist/722g60/gruppernas_artiklar_och_presentationer/1.150036/1.pdf.

Kashima, T., Matsumoto, S., and Ishii, H. (2009). Evaluation of Menu Planning Capability Based on Multi-dimensional 0/1 Knapsack Problem of Nutritional Management System.

Lewis, J. (2008). Menu Planning and Food Costing Guide to Meals and Wheels Services 2002 developed by the Department of Health WA for Home and Community Care Services WA.

Merkle, S. (2014). Food Safety Tools and Products for Environmental Health Practitioners.

Mertens, D. M. (2014). Research and evaluation in education and psychology: Integrating diversity with quantitative, qualitative, and mixed methods. Sage publications.

Nummer, B., Schaffner, D., Fraser, A., And Andress, E. (2011). Current Food Safety Issues of Home-prepared Vegetables and Herbs Stored in Oil.

Osnyder, J. (1994) he made mention about the food safety hazards and controls for the home food preparer.

Perez, M., Moua. L., Perez, H. (2006). Food Preparation, Practices, and Safety In The Hmong Community. http://hmongstudies.org/PerezMouaPinzonPerez.pdf.

Phan, T.A., & Nguyen, T.H.T. (2016). An Analysis Of Factors Impact On Customer Satisfaction In Vietnam Restaurants: Case Of Fast Food Restaurants. International Journal of Business and Management Review Vol.4, No.6, pp.1-17, August 2016___Published by European Centre for Research Training and Development UK (www.eajournals.org).

Rajendran, M. (2010). Concepts of food safety and quality management systems
http://www.fssai.gov.in/Portals/0/Training_Manual/Presentation%20on%20concepts%20of%20Food%20Safety%20and%20Quality%20Management%20Systems%20by%20Mrs.%20Malini%20Rajendran.pdf.

Schaefer, J. (2015). Creating a Food Allergy Safety Zone at Home.

Selamat, M. H. (2008).Descriptive Research.SAK 5090. (ppt). Retrieved on October 12, 2016, fromcsnotes.upm.edu.my/kelasmaya.

Smith, L. C., & Haddad, L. (2015). Reducing child undernutrition: past drivers and priorities for the post-MDG era. *World Development*, *68*, 180-204.

USDA, (2013). United States Department of Agriculture Food Safety and Inspection Service, Food Safety Information. Basics for Handling Food Safely.

Zambrano, P. (2015). UNICEF Nutrition Officer for Emergencies. Malnutrition among Filipino children.

URL: http://dx.doi.org/10.14738/abr.109.12932