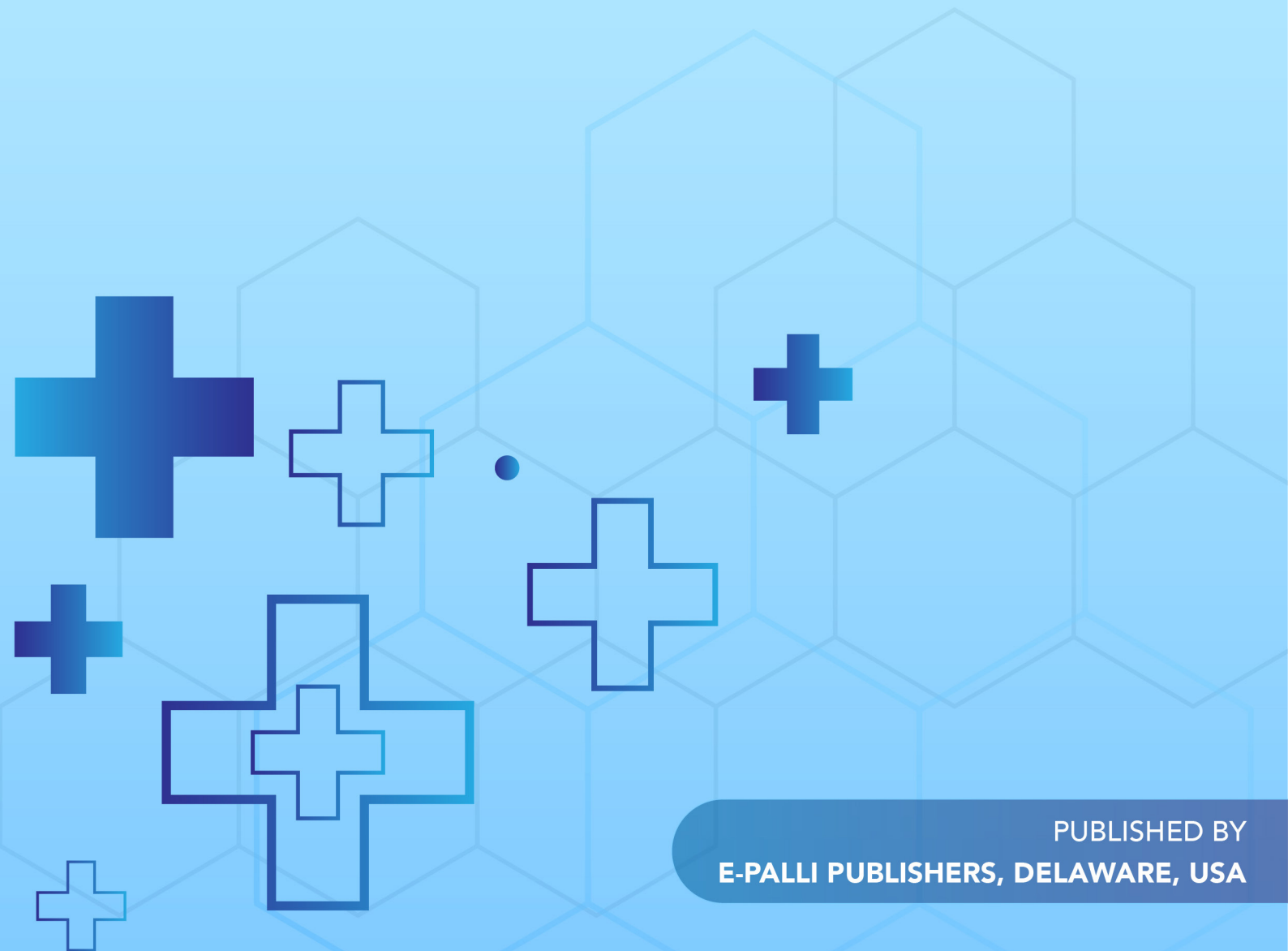




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## Physical Activity as Prevention to Weight Gain: Awareness Among Selected Middle-Aged Faculty of the West Visayas State University

Denro Macario<sup>1\*</sup>, Nera Grace Macario<sup>1</sup>

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### ABSTRACT

This study sought to determine respondents' level of awareness of physical activity as a prevention to weight gain among selected middle-aged faculty of the West Visayas State University, the academic year 2009-2010. The descriptive method of research was used in this investigation. The 60 selected middle-aged faculty of the West Visayas State University were the study's respondents. They were taken as an entire group and classified as to age and gender. The standard deviation, mean and t-test set at .05 level of significance, were the statistical tools utilized to interpret the data. The findings revealed that when taken as an entire group and classified as to age and gender, both male and female respondents had a "highly aware" level of awareness. No significant differences were found on the level of awareness as the prevention to weight gain when respondents were classified as to age and gender.

### INTRODUCTION

Misinformation about the science of health, eating depleted and denatured foods, and chemicalization of the cells are considered to be a very effective prescription for causing a massive epidemic of obesity. This is the tragedy of epidemics of obesity and diabetes being witnessed today if one wishes to understand the links between obesity and many other disorders.

The current increase in the prevalence in obesity has fostered a multi-disciplinary discourse on the most appropriate strategy for reducing this epidemic. While no consensus has been reached, preventive efforts will likely prevail, with interventions likely to target *all* children at a young age. Among children, as well as adults, obesity has an etymology which is multidimensional in nature. The principle of energy balance suggests that when energy intake is higher than energy expended, weight gain is the result. Although energy intake depends solely on dietary consumption, energy expenditure is dependent on several components, with the major modifiable aspects of physical activity; thus, both dietary and physical activity patterns have been emphasized as appropriate interventions for the prevention of obesity.

Today, more Filipinos who are on the heavy side and the threat of obesity is beginning to show among the young and old alike, according to studies by the food and nutrition research institute. Losing weight is a combination of exercise and diet. Moderation is the key. Choosing the right food will help lengthen one's life. When hunger pangs set in, drink lots of water. It is the cheaper way to lose weight.

Physical Education helps students develop the knowledge, fitness level, motor skills, and personal and social skills to the obtained goal of a lifetime activity and health. Regular physical activity participation throughout childhood

provides immediate health benefits, positively affecting body composition and musculoskeletal development and reducing coronary heart disease risk factors on an obese person.

In recognition of these health benefits, physical activity guidelines for children and youth have been developed. The primary recommendation advocates the accumulation of one hour physical activity per day of at least moderate intensity, through lifestyle, recreational and structure activity forms.

According to Wardlaw and Insel (1990), the android form of obesity is not only associated with increased risk of diabetes, but also that of heart disease and hypertension. The fact that diabetes is such a major contributor to morbidity and mortality in adults, accurate information on the potential risk in pediatric populations is essential to physical educators, public health authorities, clinicians, and community leaders.

Obesity is a chronic condition characterized by an excess of body fat. It is a complex disorder of appetite regulation and energy metabolism controlled by specific biological factors. In the past 10 years, great progress has been made in the scientific understanding of the pathophysiology of obesity and the interactions between genetic predisposition to weight gain and the environment. On the other hand, Ali (2000), in his study on food intake, oxidative stress and obesity, concludes that the global epidemic of obesity results from a combination of genetic susceptibility and increased availability of high-energy foods, decreased requirement of physical activity in modern society. Food is essential for life. That is self evident. Chronic starvation threatens life and eventually leads to death. Food also increases oxidative stress. That should be self evident as well, since all metabolic processes digestion involved and utilization of food

<sup>1</sup> Northern Iloilo State University, Philippines

\* Corresponding author's e-mail: [denromacario@nisu.edu.ph](mailto:denromacario@nisu.edu.ph)

substances are oxidative in nature. It follows that excess food intake can be expected to result in chronic oxidosis and shortened life. That has been proven to be true in all species in which it has been investigated.

The vanguard of fitness promotion, weight control, and obesity prevention lies in age appropriate education, and healthful instruction is especially critical when considering that juvenile obesity of ten begins during this period of accelerated growth.

On the Oxidative injury, Protein Cross-Linking and Obesity by Bjorksten (1998), he proposed his cross linking theory, which states that the basic aging process causes weight gain and obesity which involve accumulating damage and insoluble (cross-linked) proteins, DNA, fats and other large sized molecules, such as vitamin A. Such cross linked molecules causes aging by impeding or blocking the actions of enzymes, vitamins and other substances.

Harmon (1999) also proposed his free radical theory of aging. According to this theory, the aging process involves molecular and cellular injury caused by free radicals. Free radicals are highly unstable, extremely reactive atoms or molecules that form during normal metabolism, as well during cellular injury caused by chemicals, microbes, radiation and other types of injury. Needless to say, lipolytic enzymes in adipocytes and myocytes are not anymore immuned to oxidative stress than other functional with complex structures.

However, on the study of Farooqui and O'Rally (2000) on genetics of body weight regulation on obesity genomics, rapid progress is being made in elucidating altered experience of genes affecting essential aspects of metabolism, aging, and the species life span. When viewed through the prism of oxygen homeostasis, many of these genes assume the functions of body weight genes and the same genes with altered experiences become the "obesity genes" which are the endogenous and exogenous mutagenic factors which play important roles in the causation of the obesity epidemic. Such mutagens are expected to adversely affect the expression of genes that regulate the structure and function of the fats and muscle cells.

This study of Belin (2004) showed that in spite of negative health consequences of obesity, weight reduction is notoriously difficult to achieve. He developed in his study a self teaching manual to enhance patient compliance with weight control regimens through patient involvement in their own diet. The manual contains multiple intervention strategies that provide education on weight loss. He states the principles of teaching the application of self control techniques and creative problem solving skill. An individual can tailor these strategies to meet specific needs. Self control techniques provide the tools necessary to cope with individual problem and include both operant and cognitive methods.

Jacque (2004) also investigated adolescent obesity risk factors and intervention program. Results showed significant impact on adolescents in terms of reduced

BMI levels, increased physical activity, improved eating habits and decreased amount of sedentary activities can improved student and parental awareness of health implication. Another aspect of the study suggested that physical education should be increased in schools will help to look at attitudes and beliefs among teachers, parents and other school personnel concerning the appropriate role of schools in combating the adolescent obesity problem. This is in accordance with Spurlock's (2006) statement that the energy density of food and the proportion of calories in relation to weight is an important factor in regulating the amount people eat. Food with high energy density causes people to eat more calories than they need without being aware of it. Yet the higher the caloric intake, the higher the risk of obesity especially when combined with a sedentary lifestyle, hence, this study.

## LITERATURE REVIEW

### Weight Gain

Weight gain is an increase of body weight. This can be either an increase in muscle mass, fat deposits, or excess fluids such as water. In some cases, weight gain can also occur as a result of developing tumors or other abnormal growths. Muscle weight gain can occur as a result of body building, in which muscle size is increased.

If enough weight is gained by way of increased body fat deposits, one may become overweight. Overweight is generally defined as having more body fats that is optimally healthy (Mokdad, 2001). Weight gain according to Feskanich (1993) has a latency period. The effect that eating has non weight gain can vary greatly depending on the following factors: Exercise regimen, amount of water intake, amount of salt fat or sugar contained in the food, time of day eaten, age of individual, individual's country of origin, individual's overall stress level, and amount of water retention in ankles/feet. Typical latency periods vary from three days to two weeks after ingestions.

The issue of healthy eating has long been an important concern to individuals and cultures. Among other practices, fasting, dieting, and vegetarianism are all techniques employed by individuals and encouragement from societies to increase longevity and health. Some religions promote vegetarianism, considering it wrong to consume animals. Leading nutritionists believe that instead of indulging one's health in three large meals each day, it is much healthier and easier on the metabolism to eat five small meals each day. However, Psychiatrists with Yale Medical School have found that people who suffer from eating (BED) Beinged-Eating Disorder and consume three meals per day (Salvini, 1990).

### Obesity

Obesity is an alarming epidemic to date suffered by people in many countries. People in several countries are fundamentally not less vulnerable to nutritional environmental and life style stressors that cause obesity. Obesity is now so common within the world's population

that is beginning to replace under nutrition and infectious diseases as the most significant contributor to ill health. Obesity is now considered a disease of epidemic proportions with increasing prevalence worldwide. This general rise in obesity is likely to have long lasting physical and mental health consequences for the population. Some nutrition experts consider an increase in weight of 20% or more over the ideal weight as a health hazard. The increasing prevalence, numerous health risks and astounding economic costs of obesity is approximately 1 billion per year in several countries including the Philippines. Preventive action has historically taken the form of medical intervention, health public policy and such action has demonstrated a great deal of success. Obesity is particularly dependent on prevention.

**Physical Activity**

The study of Manson (1991) states that physical activity is important for physical health, emotional well being, and achieving a healthy weight. Physical activity may help one controls his weight by using excess calories that would otherwise be stored as fat. Most foods and many beverages individual eats and drink contain calories, and everything one does uses calories. This includes sleeping, breathing, digesting food, and moving around. Balancing the calories you eat with the calories you use through physical activity may help you maintain your current weight.

In addition, one should follow a nutritious eating plan and consume fewer calories than he burns each day. Study shows that physical activity is very important to successful long term weight control. People may need to do different amounts of physical activity to lose and control weight.

Physical activity may include structured activities like walking, jogging, strength training, or sports. It may also include daily activities, such as household chores, yard work or walking with the dog.

**MATERIALS AND METHODS**

The descriptive method of research was used in this investigation. The independent variable considered were age and gender and the dependent variable was be the level of awareness on physical activity as prevention to weight gain among selected middle-aged faculty of the West Visayas State University, School Year 2009-2010.

The 60 respondents were made to answer the researcher-made questionnaire purposively constructed for this study. Purposive sampling method was employed in the selection of the final respondents of the study. Upon retrieval of the accomplished questionnaires, the data were tallied, computed, analyzed and interpreted.

**Participants**

The respondents of the study were the 60 selected middle-aged faculty of the West Visayas State University, School Year 2009-2010, who were somewhat obese or overweight.

There were sixty (60) randomly selected respondents included in the study. Of the 60 WVSU faculty, 36(60%) belonged to ages 40- 50 years old, and 24(40%) were 50- 60 years old. As to gender, 24 (40%) were male, and 36 (60%) were female.

**Instruments of the Study**

A researcher-made questionnaire validated by a physical educator, nutritionist and a doctor of family medicine according to their expertise were used in gathering the data needed. The first part contained the personal information from the respondents. The second part was the questionnaire on the respondents’ level of awareness on physical activity as a factor in the prevention of weight gain. A three-point scale was used for the questionnaire with corresponding numerical value as seen below.

Scale	Numerical Value
Always	3
Sometimes	2
Never	1

“Always” means that the respondents are highly aware on the level of awareness.

“Sometimes” means that the respondents are moderately aware on the level of awareness.

“Never” means that the respondents are less aware on the level of awareness

Scale	Numerical Value
2.33 – 3.00	Highly Aware
1.67 – 2.32	Moderately Aware
1.00 – 1.66	Less Aware

**Procedure**

The data that were completely accomplished and collected were subjected to encoding using Microsoft Excel. It was processed and tested using Social Package for Social Sciences (SPSS) software for convenience and accuracy. All inferential test statistics was set at .05 alpha level.

The data were tested using the following tools:

- Frequency - was used to determine the distribution counts of respondents according to variables.
- Percentage – was used to determine the part of the whole the variable represents.
- Mean – was used to determine the level of awareness of WVSU faculty on physical activity as prevention to weight gain.
- Standard Deviation – was used to determine the heterogeneity or homoscedasticity of the level of awareness among faculty.
- t-test for independent sample – was used to compare the significant difference on the level of awareness among faculty when considering their age and gender.

**RESULTS AND DISCUSSION**

Specifically, this study sought answers to the following questions:

1. What is the level of awareness on physical activity as prevention to weight gain among selected Middle-Aged WVSU faculty when taken as an entire group and classified as to age and gender?

2. Are there significant differences on the level of awareness on physical activity as prevention to weight gain when respondents are classified as to age and gender? Based on the aforementioned problem, the hypothesis below was advanced.

1. There are no significant differences on the level of awareness on physical activity as prevention to weight gain when respondents are classified as to age and gender?

The descriptive method of research was used in this investigation. The independent variable considered was age and gender and the dependent variable was the level of awareness on physical activity as prevention to weight gain among selected middle-aged faculty of the West Visayas State University, School Year 2009-2010.

The 60 respondents were made to answer the researcher-made questionnaire purposively constructed for this study. Purposive sampling method was employed in the selection of the final respondents. Upon retrieval of the accomplished questionnaires, the data were tallied, computed, analyzed and interpreted.

Based on the results, the researchers found out the following:

1. The respondents were “highly aware” on physical exercise as prevention to weight gain when taken as an entire group and classified as to age and gender.

2. No significant differences existed on the level of awareness on physical activity as prevention to weight gain among selected Middle-Aged WVSU faculty when they were classified as to age and gender.

### Respondents’ Profiles in Terms of Descriptive Data Analysis and Inferential Data Analysis

#### Descriptive Data Analysis

The following table shows the level of awareness on physical activity as prevention to weight gain among selected middle-aged WVSU faculty.

**Table 1:** Level of Awareness on Physical Activity as Prevention to Weight Gain Among Selected Middle-Aged WVSU Faculty

Category	SD	Mean	Description
Entire Group	.23	2.72	Highly Aware
<b>Age</b>			
40-50 years old	.25	2.69	Highly Aware
51-60 years old	.21	2.76	Highly Aware
<b>Gender</b>			
Male	.25	2.66	Highly Aware
Female	.21	2.76	Highly Aware

#### Legend

Scale	Numerical Value
2.33 – 3.00	Highly Aware
1.67 – 2.32	Moderately Aware
1.00 – 1.66	Less Aware

Table 1 shows that when WVSU faculty were taken as an entire group, their level of awareness was “highly aware” on physical activity as prevention to weight gain (mean=2.72). When classified as to age, those belonging to 40 to 50 years (mean=2.69) and those aging 51 to 60 years (mean=2.76) were “highly aware”; both male (mean=2.66) and female (mean=2.76) faculty were also “highly aware”.

#### Inferential Data Analysis

The following table shows the t-test for the significant difference on the level of awareness on physical activity as prevention to weight gain among selected middle-aged WVSU faculty classified as to age and sex.

**Table 2:** t-test for the Significant Differences on the Level of Awareness on Physical Activity as Prevention to Weight Gain Among Selected WVSU Faculty Classified as to Age and Sex

Category	SD	Mean	t	df	Sig.
<b>Age</b>					
40-50 years old	.25	2.69	-1.701	58	.094
51-60 years old	.21	2.76			
<b>Gender</b>					
Male	.25	2.66	-1.138	58	.260
Female	.21	2.76			

Table 2 shows that no significant differences existed on the level of awareness on physical activity as prevention to weight gain among selected Middle-Aged WVSU faculty when they were classified to age and sex. This implies that level of awareness among faculty regarding physical activity, whether they were male or female, and age 40-50 years or 51 to 60 years, were most likely to be comparable. Obtained p-value of .094 and .260, respectively, were not significant at .05 alpha levels; hence, the null hypothesis was accepted.

Based on the findings, the researchers were able to conclude the following:

1. All of the middle-aged faculty of WVSU had the same level of awareness on physical activity as prevention to weight gain when taken as an entire group and classified as to age and gender. Their being educated may have contributed to their similar level of awareness, regardless of their age and gender. As part of their orientation as teachers, the middle-aged respondents are aware of their health conditions. In terms of food intake and avoidance of sedentary lifestyle, food with high energy density causes people to eat more calories than they need without being aware of it, yet the higher the caloric intake, the

higher is the risk of weight or obesity especially when combined with a sedentary lifestyle.

2. The respondents, as they grow old, are aware of the importance of maintaining a regular physical fitness program but have no time to do it or feel that it is difficult and boring. Some would rather spend their time playing chess to sharpen their mind, study their lessons or play video games to relax.

3. Some of these respondents may be physically active during their younger years, but due to changes of cultural forces affecting modern man, such as the use of computers, physical activity as part of the respondents' routines are now reduced.

4. So, as Physical Educators are obliged to educate those people who are carrying around those extra kilos of fat in their body not only undermine their self-esteem but also possess numerous health risks. An overweight or obese individual is a sure candidate for arthritis, gout and some types of cancer.

## CONCLUSION

The findings of the present investigation have led to certain implications in relation to the level of awareness among selected middle-aged faculty of WVSU. The respondents are all highly aware for the reason that they are educated towards physical activities.

1. Regular physical activity is key to achieving and maintaining a healthy body weight for adults and children. To prevent the gradual accumulation of excess weight in adulthood, up to 30 additional minutes per day may be required over the 30 minutes for reduction of chronic disease risk and other health benefits. That is, approximately 60 minutes of moderate to vigorous intensity physical activity on most days of the week may be needed to prevent unhealthy weight gain.

2. While moderate intensity physical activity can achieve the desired goal, vigorous intensity physical activity generally provides more benefits than moderate intensity physical activity. Control of caloric intake is also advisable. However, to sustain weight loss for previously overweight or obese people, about 60 to 90 minutes of moderate intensity physical activity per day is needed.

3. In addition, regular exercise can help prevent fats, which is of particular importance for older adults. The carrier often given for a failure to be physically active is lack of time. Setting aside 30 to 60 consecutive minutes each day for planned exercise is one way to obtain physical activity, but it is not the only way.

4. The accumulated total 60 minutes of physical activity per day is important both for health and for burning calories. Physical activity can be accumulated through three to six 10 minutes bouts over the course of the day. Elevating the level of daily physical activity may also provide indirect nutritional benefits. A sedentary lifestyle limits the number of calories that can be consumed without gaining weight.

The higher a person's physical level, the higher his or her energy requirement and the easier it is to plan a daily

food intake pattern that meets recommended nutrient requirements.

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