Weight Management: It's Effect in the Prevention of Obesity Related Illnesses

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Abstract: While the world is focusing on global hunger and malnutrition, another ugly "monster" has emerged – OBESITY, a new form of malnutrition, has surfaced as an urgent challenge affecting several countries. The issue of obesity has received a great deal of attention over the past few decades. Rising obesity rates are a major concern worldwide. The study aims to determine the effect of weight management in the prevention of chronic illnesses acquired from obesity of laboratory high school students. The study made use of purposive sampling of One Hundred laboratory high school students using questionnaire is the main instrument in data gathering. It is noted that the students practice healthy lifestyles and preventions to health problems. The respondents should be into physical activities and embrace properly balanced diet since it shows that these have a relationship in the prevention of health problems.

Key Words: Weight management, Obesity, Prevention, Descriptive research

1 Introduction

While the world is focusing on global hunger and malnutrition, another ugly "monster" has emerged – OBESITY, a new form of malnutrition, has surfaced as an urgent challenge affecting several countries. The issue of obesity has received a great deal of attention over the past few decades. Rising obesity rates are a major concern worldwide. In North America, 60% of Canadians are obese. According to the United Nations Food and Agriculture Organization (FAO), the Philippines and India are among the developing countries with high levels of obesity and under nutrition [1].

A 2011 survey by the Food and Nutrition Research Institute (FNRI) showed that 22.3% of Filipino adults are overweight and 6.1% are obese and is expected to increase significantly in 2015 according to FNRI. FNRI said in its report that if this trend continues, it is highly likely that more will suffer from high-risk diseases that could lead to death.

The factors leading to obesity in developing countries like the Philippines are numerous. One leading factor is increasing world and domestic food prices, forcing increased purchased of unhealthy processed food over healthy and staple but expensive foods. Food represents a substantial portion of the expenditure of poor households in poor countries.

Short-term interventions, which are typically 6 months or less in duration, have examined the effect of exercise alone and in combination with reductions in energy intake on changes in body weight. When compared, these studies have demonstrated that reductions in energy intake (eg, diet) have a greater impact on body weight than changes in energy expenditure via exercise, with the combination of diet plus exercise having the greatest impact on weight loss. For example, Hagan et. al. (1986) reported reductions in body weight of 11.4, 8.4, and 0.3% in males participating in 12 weeks of diet plus exercise, diet alone, or exercise alone, respectively. A similar pattern of weight losses of 7.5, 5.5, and 0.6% was observed in women engaging in the same interventions [2].

The benefits of exercise for weight control may be best observed when exercise continues as part of the treatment plan beyond the initial weight loss period, which is typically 6 months in duration. Studies have demonstrated that exercise alone can have a significant impact on body weight when maintained for ≥12 months. Moreover, it has been shown that exercise may contribute to additional weight loss beyond the weight reduction observed within the initial 6 month of treatment [3]. Of greater importance is the observation that individuals who are capable of maintaining their weight loss long term also report engaging in exercise as part of their behavioural treatment program. An interesting observation in a study conducted by McGuire et. al.

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(1999) was that individuals in the National Weight Control Registry who reduced their level of leisure-time physical activity also reported weight regain across a 1-year period [4]. Thus, for exercise to be effective long term, it will be important to implement strategies that will facilitate the maintenance of the exercise behavior long-term in overweight and previously overweight individuals.

Regular physical activity may help you reach and maintain a healthy weight. Thus, being physically active may also make you more energetic, improve your mood, and reduce the risk of developing some chronic diseases [5].

The study aims to determine the effect of weight management in the prevention of chronic illnesses acquired from obesity of laboratory high school students, in Ramon Magsaysay Technological University.

1.1 Hypotheses

1.There is no significant difference in the weight management practices when grouped according to profile variable?

2.There is no significant relationship between weight management practices and prevention of health problems?

2 Methods
2.1 Research Design

The descriptive method does not merely accept the gathering of data and tabulation of results but also includes interpretation and evaluation of what has been described in the questionnaire without analyzing relationships among variables. Calmorin and Calmorin (2003) states that in descriptive design, the study focuses at the present condition (what is), the discovery of a new causal relationship, more accurate formulation of the problem solved, and many others [6]. Likewise, Sevilla, et. al. (1992) that it describes the nature of a situation as it exists at the time of the study and to explore the causes of particular phenomena [7].

This research used descriptive study using quantitative methods. It attempts to analyze and determine the effects of weight management in the prevention of chronic illnesses acquired from obesity of laboratory high school students, in Ramon Magsaysay Technological University. It describes a situation or a given state of affairs in terms of specified aspects or factors.

2.2 Participants, Instrument, and Sampling

The respondents are the One Hundred (100) laboratory high school students in the Ramon Magsaysay Technological University using a self-constructed questionnaire as the main instrument in data gathering. The questionnaire was validated and distributed to the selected respondents.

Purposive sampling was used in selecting the respondents. A purposive sample is a non-probability sample that is selected based on characteristics of a population and the objective of the study. It is also known as judgmental, selective, or subjective sampling.

3 Statistical techniques

All data yielded by the instrument was tallied, tabulated, analyzed and interpreted accordingly. To interpret the data effectively, the researcher has employed the following statistical treatment:

The percentage was employed to determine the frequency counts and percentage distribution of personal related variables of the respondents.

Weighted Arithmetic Mean was used to determine the assessment of the respondents with regards to the weight management practices and health problem preventions.

Liker scale was used to interpret the weight management practices and health problem preventions, 5 as the highest as always "A", 4 as often "O", 3 as sometimes "So", 2 as seldom "Se", and 1 as never "N". To test the significance of the differences through the mean in the variables on the weight management practices among the respondents, Analysis of Variance (ANOVA) was used. On the other hand, Pearson-r was used to determine if there is relationship exists between weight management practices and health problem preventions.

4. Results and Discussions
4.1 Profile of the Respondents

Sex - Most BPE students who have weight problems are female; they are a fun of eating during break time based on the interview conducted.

Age - The data shows that majority of the respondents belong to early adulthood, wherein they are enjoying eating the foods that they want, they called it "food trip".

Height - The respondents have a height from 5'4"-5'6". This is the average height of a Filipino currently on early year in college student.

Table – 1 Frequency and Percentage Distribution of the Respondents according to Profile Variables

Profile Variables		Frequency (f)	Percentage (%)
Sex	Female	54	54.0
Age	15-16	68	68.0

Mean = 15.2 yo	19-20	1	1.0
Height Mean = 5'2"	5'4" – 5'6"	39	39.0
	6'1" - above	2	2.0
Weight Mean = 53.7 kg	50 kg and below	50	50.0
	81-90 kg, 91-100 kg	1	1.0
Nutritional Status-BMI	18.5 – 24.9 = normal weight	92	92.0
	25.0 -29.0 = pre-obesity; above 40 = obesity	2	2.0
Monthly Family Income Mean = Php16,425.38	Php10,001 – Php20,000	42	42.0
	Php5,000 – Php10,000	25	25.0
Residency	Barangay	96	96.0
	Upper Land Ares	1	1.0

Weight - Most of the respondents have a weight ranging from 50kg and below. This weight limit is ideal enough for teenager students. The weight result is balanced with the height and age result.

Nutritional status-BMI - The respondents have a normal weight. According to them, they ate foods what they want but some of them were not getting fat because of physical activities they are engaged in.

Monthly family income - The respondents have a monthly family income ranging from P10,001-P20,000. This is the average income of a family having one family member working with a minimum wage.

Residency - Majority of the respondents are residing at barangay. Based on the record, most of the BPE students came from every barangays of the different municipality of Zambales.

4.2 Weight Management Practice

Food Preference

Perceived "always" on indicator 5 "Meat like pork, chicken, beef" with 4.24 mean and often on indicator 2 "Salty food such as junk foods" with 3.38 mean. The respondents are often practicing to be healthy in terms of their food preference. Since they are young, they are fond of eating meat but they balance it by eating green leafy vegetables as well.

Table – 2 Perception of the Respondents towards Weight Management Practices

Healthy Lifestyle Practice	Mean	Qualitative Description
Food Preference		
Less rice and other carbohydrate food	3.52	Often
Salty food such as junk foods	3.38	Often
Fast food chains variety like hamburger, fried chicken, spaghetti, etc.	3.83	Often
Green leafy food such as vegetables and fruits	4.05	Often
Meat like pork, chicken, beef	4.24	Always
Sea food such as fish, shells, etc	3.83	Often
Overall Weighted Mean	**3.81**	**Often**
Physical Activities Engagement		
Aerobic activity	2.84	Sometimes
Muscles strengthening	3.40	Often
Bone strengthening	3.48	Often
Stretching	3.75	Often
Ball games	3.78	Often
Swimming	3.03	Sometimes
Overall Weighted Mean	**3.38**	**Sometimes**
Leisure Time and Activities Engagement		
Doing grocery	3.37	Sometimes
Gardening	3.05	Sometimes
Basketball playing	3.27	Sometimes
Watching TV	4.50	Always
Sleeping	4.38	Always
Doing household chores	3.97	Often
Overall Weighted Mean	**3.76**	**Often**

Physical Activities Engagement

Perceived often on indicator 5 "Ball games" with 3.78 mean and sometimes on indicator 1 "Aerobic activity", 2.84 mean. The overall weighted mean was 3.38 and interpreted as "sometimes". The respondents are sometimes practicing to be healthy in terms of aerobic and swimming as physical activities engagement because it is a hassle to change suit when it comes to swimming unlike the ball games, they can play anytime if they have a vacant period.

Leisure Time and Activities Engagement

Perceive "always" on indicator 4, "watching TV" with 4.50 mean, while, sometimes on indicator 2 "gardening" with 3.05 mean. The respondents spend their leisure time in watching TV and sleeping which is not a healthy practice, they only sometimes spend their time of moving their body as a form of exercise.

4.3 Health Problems Prevention

Table – 3 Perception of the respondents towards Health Problems Prevention

Health Problems Prevention	Mean	Qualitative Description
Exercise regularly of at least three times a week	3.62	Often
Balance diet	3.45	Often
No alcohol	3.90	Often
Sleeping eight hours	3.66	Often
Using leisure time for relaxation	3.62	Often
No cigarette	4.20	Always
Avoiding stress	3.49	Often
Overall Weighted Mean	**3.70**	**Often**

Indicator 6 "no cigarette" which perceived as "always" with 4.20 mean. While in indicator 2 "balanced diet" which perceived often with 3.45 mean. The respondents always prevent possible health problems by avoiding cigarette. It is a fact that cigarette smoking is a killer to an individual. It is quite good that at their young age they are aware that every stick of cigarette kills.

4.4 Test of Differences According to Profile Variables

Table – 4 Analysis of Variance according to Profile Variables

Profile Variables	Food preference	Physical activities engagement	Leisure Time and Activities Engagement
Sex	0.152	*0.000	0.136
	Not Significant	Significant	Not Significant
Age	0.141	0.326	0.233
	Not Significant	Not Significant	Not Significant
Height	0.889	0.853	0.464
	Not Significant	Not Significant	Not Significant
Weight	0.127	0.460	0.666
	Not Significant	Not Significant	Not Significant
Nutritional Status-BMI	0.581	0.775	0.940
	Not Significant	Not Significant	Not Significant
Monthly Family Income	0.116	0.695	0.027
	Not Significant	Not Significant	Significant
Residence	0.933	0.070	*0.332
	Not Significant	Not Significant	Not Significant

significant level 0.05 level

Food Preference

The computed significant value of food preference according to profile variables which are higher than 0.05 Alpha Level of significance, therefore the null hypothesis is accepted, hence there is no significant difference. The respondents don't have a significant difference when it comes to food preference. They ate want they want to eat regardless of their profile variables.

Physical Activities Engagement

In terms of physical activities engagement, the computed significant value of 0.000 for sex profile variable is lower than 0.05 Alpha Level of Significance, therefore the null hypothesis is rejected, hence there is a significant difference. The respondents differ on sex when it comes to their physical activities engagement since the male is more into ball games and bodybuilding compare to female. Female most likely engage in aerobics and dancing.

Leisure Time and Activities management

On the other hand, in terms of leisure time and activities engagement, the computed significant value of 0.027 for monthly family income profile variable is lower than 0.05 Alpha Level of Significance, therefore the null hypothesis is rejected, hence there is a significant difference. The respondents' difference lies on their monthly family income, if their income permits them to have a helper, their leisure time would be devoted to relaxation but if the other way around, and they were obliged to do the day-to-day house activities.

4.5 Test of Relationship

Table – 5 Test of Relationship between Food Preference and Health Problems Prevention

		Health Problems Prevention	Food Preference
Health Problems Prevention	Pearson Correlation	1	0.130
	Sig. (2-tailed)		0.197
	N	100	100
Food Preference	Pearson Correlation	0.130	1
	Sig. (2-tailed)	0.197	
	N	100	100

significant level 0.05 level (2-tailed)

The computed significant value of 0.197 which is higher than 0.05 Alpha Level of significance, therefore the null hypothesis is accepted, hence there is no significant relationship between the health

problems and the practice of food preference. The respondents have no significant relationship in terms of food preference practice as to relate in the prevention of health problems. According to them, they choose food of what they want regardless of what would be the effect on their health.

Table – 6 Test of Relationship on the Perception between Health Problems Prevention and Physical Activities Engagement

		Health Problems Prevention	Physical Activities Engagement
Health Problems Prevention	Pearson Correlation	1	0.330
	Sig. (2-tailed)		0.001
	N	100	100
Physical Activities Engagement	Pearson Correlation	0.330	1
	Sig. (2-tailed)	0.001	
	N	100	100

significant level 0.01 level (2-tailed)

The computed significant value of 0.001 which is lower than 0.01 Alpha Level of significance, therefore the null hypothesis is rejected; hence there is a significant relationship between the health problems and the physical activities engagement practice. The respondents have a significant relationship in terms of the physical activities engagement practice when it comes to preventing illnesses. It is a fact that engaging more in physical activities makes an individual healthier than those who do not.

Table – 7
Test of Relationship between health Problems Prevention and Leisure Time and Activities Engagement

		Health Problems Prevention	Leisure time and activities engagement
Health Problems Prevention	Pearson Correlation	1	0.213
	Sig. (2-tailed)		0.033
	N	100	100
Leisure time and activities engagement	Pearson Correlation	0.213	1
	Sig. (2-tailed)	0.033	
	N	100	100

significant level 0.05 level (2-tailed)

The computed significant value of 0.033 which is lower than 0.05 Alpha Level of significance,

therefore the null hypothesis is rejected; hence there is a significant relationship between the health problems and the leisure time and activities engagement practice. The respondents have a significant relationship in terms of devoting leisure time and activities engagement in responding to preventing illnesses. They devote most of their time to physical activities especially games and body stretching because they believed that physical exercises make a person healthy.

5. Conclusions

It was concluded based on the results that the respondents often practice healthy lifestyles both in terms of food preference and leisure time activities engagement, but sometimes in terms of physical activities engagement. They also often practiced on health problems prevention. It was found out that they differ based on sex when it comes to physical activities engagement, and based on family income in terms of leisure time and activities engagement. Thus, the respondent should lessen the meat consumption and more on fish, as well as on green vegetables and fruits for healthy leaving. Ball games and body stretching should also be engaged and minimize more time watching television as well as sleeping a lot of time specifically beyond 8 hours. Healthy living can be achieved through discipline – avoid what is bad and nourish what is good; more time on physical activities and exercise.

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