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Nutritional awareness and body mass index among the Undergraduate female students

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Abstract

Purpose: The purpose of the study was to know the Nutritional Awareness and Body Mass Index among the female students of different streams of Post Graduate Government College, Sector-11, Chandigarh.

Methodology: The study was descriptive in nature in which survey method was used for the collection of the data. Total 80 students were selected as a population from the different streams of Post Graduate Government College, Sector-11, Chandigarh. The subjects were selected by using purposive random sampling technique. For the study total 04 streams namely B.P.Ed., B. Com., B.A. and B.Sc. (all the classes i.e. I, II and III Year) were taken. 20 students were taken from each stream. The age of the subjects were ranged from 18 to 25 years. The variables selected for the present study were: Nutritional Awareness and Body Mass Index. The Nutritional Awareness of the subjects was assessed by using Nutritional Survey Questionnaire developed by Hoogenboom, Morris, Morris & Schaefer, 2009. For calculating Body Mass Index of the subjects, the height and weight of the students were measured by using Stadiometer and electronic weighing machine respectively. The height was measured in meters while weight was taken in kilograms. The level of significance was set at 0.05.

Statistical Technique: In order to analyse the collected data were analyzed by using SPSS software, in which descriptive statistics and one way ANOVA were used to compare the mean scores of the Nutritional Awareness and Body Mass Index of the students of different streams of Post Graduate Government College, Sector-11, Chandigarh.

Result: The results of the study have shown that, there is no significant difference between the female students of Undergraduate Classes of P.G.G.C.-11, Chandigarh on Nutritional Awareness and Body Mass Index.

Conclusion: No significant difference was found between female students of Undergraduate Classes of P.G.G.C.-11, Chandigarh on Nutritional Awareness and Body Mass Index.

Keywords: Variable, stadiometer and ANOVA

Introduction

The word nutrition first appeared in 1551 and comes from the Latin word *nutrire*, meaning "to nourish." Today, we define nutrition as the sum of all processes involved in how Organisms obtain nutrients, metabolize them, and use them to support all of life's processes. Nutritional science is the investigation of how an organism is nourished, and incorporates the study of how nourishment affects personal health, population health, and planetary health. Nutritional science covers a wide spectrum of disciplines. As a result, nutritional scientists can specialize in particular aspects of nutrition such as biology, physiology, immunology, biochemistry, education, psychology, sustainability, and sociology. Without adequate nutrition the human body does not function optimally, and severe nutritional inadequacy can lead to disease and even death. The typical American diet is lacking in many ways, from not containing the proper amounts of essential nutrients, to being too speedily consumed, to being only meagrely satisfying. Dieticians are nutrition professionals who integrate their knowledge of nutritional science into helping people achieve a healthy diet and develop good dietary habits.

Good nutrition helps the young adults to enjoy an active lifestyle. For most people, this is the time when their bodies are in the best condition. The body of an adult does not need to devote its energy and resources to support the rapid growth and development that characterizes youth. However, the choices made during those formative years can have a lasting impact. Eating habits and preferences developed during childhood and adolescence influence health and

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fitness into adulthood. Some adults have gotten a healthy start and have established a sound diet and regular activity program, which helps them, remain in good condition from young adulthood into the later years. Others carry childhood obesity into adulthood, which adversely affects their health. However, it is not too late to change course and develop healthier habits and lifestyle choices. Therefore, adults must monitor their dietary decisions and make sure their caloric intake provides the energy that they require, without going into excess. Awareness about proper nutrition, food nutritive value and healthy eating practices can make a difference in the health of the society and country as a whole. Nutritional deficiencies can leave an entire nation unproductive. Poor diet is the 4th biggest global risk factor for disease. Nutrition can be easily obtained from getting a well-balanced and varied diet. Nutritious food plays a significant role in maintaining a healthy body which is compatible with long life. Identification of teen dietary practices is the first step towards promotion of adopting healthy eating habits. The impact of nutritional awareness on diet quality seems to be a promising area for both health promotion and health policy research. Good eating habits will help undergraduates not only to improve their nutritional well-being, but also to prevent nutrition-related diseases. Diet of good quality is inversely associated with dietary energy density, and people eating a variety of foods are more likely to meet their needs for a wide range of essential nutrients. Nutritional and eating habits have been of specific interest in sports, especially given their impression on athletic performance. General recommendations need to be suggested by sports nutrition experts to accommodate the specific requirements of individual athlete regarding health, sports, nutrient, food choices and body weight and body composition. Nutrition is important for an athlete because it provides energy cushion and protects vital organs, aids the digestive system, acts within each cell to transport nutrients and dispel waste.

Body Mass Index

Body mass index has been a useful tool due to its universal acceptance as a categorizing factor of body fatness. BMI is considered to be an indication of the relative amount of body fat on an individual frame. Since it does not measure adipose tissue, it has the potential for inaccuracy. People with significant lean body mass, for example, could be classified as “overweight” while they would likely have a low body fat percentage. A high BMI can be a sign of too much fat on the body, while a low BMI can be a sign of too little fat on the body. The higher a person’s BMI, the greater their chances of developing certain serious conditions, such as heart disease, high blood pressure, and diabetes. A very low BMI can also cause health problems, including bone loss, decreased immune function, and anaemia. While BMI can be useful in screening children and adults for body weight problems, it does have its limits. BMI may overestimate the amount of body fat in athletes and other people with very muscular bodies. Body mass index (BMI) and waist circumference are used in daily paediatrics to classify children according to their weight. This information is of importance because it has been proven to be more accurate in the assessment of metabolic risks such as the development of the metabolic syndrome. Body mass index (BMI), a measure of excess weight for height, has increasingly become the standard for measuring adiposity. BMI is calculated as weight in kilograms divided by height in meters squared. Individuals with a BMI of 25 or greater are considered overweight and those with a BMI of at

least 30 are considered obese. BMI is often used over other measures of adiposity because it is easy to calculate and removes the effect of height on weight. BMI effectively captures adiposity in the general population, although it works less well in certain groups (such as professional athletes and the elderly) who have either a very high or very low degree of muscle mass for their size. The special nutritional needs of athletes are depending on the sport; whether they want to lose body fat or gaining and/or maintaining lean tissue. While some athletes appear to be naturally lean, with weight and body size well matched for their sport, others need to change their weight and/or body composition to be competitive. For instance, aesthetic sports e.g. rhythmic and artistic gymnastics, ice-skating or dancing, weight division sports e.g. judo, or rowing gym sports e.g. aerobics, endurance sports e.g. long-distance running are sports requiring low body-weight and/or body composition in order to be considered an athlete as elite.

Objectives of the study

1. To study the Nutritional Awareness among the students of different streams of Post Graduate Government College, Sector-11, Chandigarh.
2. To study the Body Mass Index among the students of different streams of Post Graduate Government College, Sector-11, Chandigarh.

Methodology

The present study was descriptive in nature in which survey method was used for the collection of the data. Total 80 (female students) were selected as a population from the different streams of Post Graduate Government College, Sector-11, Chandigarh. The subjects were selected by using purposive random sampling technique. For the study total 04 streams namely B.P.Ed., B.A., B.Sc. and B.Com were taken. 20 female students were taken from each stream. The age of the subjects were ranged from 18 to 25 years. The variables selected for the present study were: Nutritional Awareness and Body Mass Index. The Nutritional Awareness of the subjects was assessed by using Nutritional Survey Questionnaire. For calculating Body Mass Index of the subjects, the height and weight of the students were measured by using Stadiometer and electronic weighing machine respectively. The height was measured in meters while weight was taken in kilograms. For the present study the data were collected in two ways or phases from each selected subject. First Phase was before lockdown and Second Phase during lockdown. In first phase, the data of B.P.Ed and B.A. streams were collected while in the second phase, the data of B.Com and B.Sc. were collected. For the data collection (in 2nd phase) a Google form was developed by the research board/research scholar and then its link was sent to each selected subject on their Whatsapp and e-mail Id’s. For more clarity the telephonic conversations were made with each selected subject. Total 15 days were given to the subjects to fill the Questionnaire. For filling the Questionnaire all the selected subjects were directed or instructed well in advance with their convenience. For avoiding any hesitation of the subjects all the subject were told by the research scholar that their information and responses will be kept as very confidential and used for this research work only. And the subjects were also requested to fill the Questionnaire very carefully or seriously. There was no scoring for the first part of the questionnaire because it includes only basic informations of the subjects while in the second part of the questionnaire there was a fixed scoring. Here, for every question there was only ‘One Mark’ either it was opted true or false while for opting

“Do Not Know” option, the subjects were awarded ‘Zero Mark’. So, all the obtained marks were counted and added as a final score of a subject. Higher score indicates better knowledge about nutrition. For Body Mass Index the total height (foot to head) of a subject was considered as a final score or height of a subject for the present study.

The height was measured in Meters only. The total weight (in kilograms) of a subject was taken and then it was calibrated according to the subject’s clothing and then the calibrated weight was considered as final score of the subject. The level of significance was set at 0.05.

Statistical procedure employed

In order to analyses of the collected data SPSS software was used in which descriptive statistics and one way ANOVA were used to compare the mean scores of the Nutritional Awareness and Body Mass Index of the students of different streams of Post Graduate Government College, Sector-11, Chandigarh. The level of significance was set at 0.05.

Findings of the study

The statistical analysis of the data pertaining to compare the Nutritional Awareness and Body Mass Index of female students of the Undergraduate Classes of P.G.G.C-11, Chandigarh were put to statistical computation for analysis and presented in tabular forms.

The descriptive statistics have been used to summarize the data. So, that they are easy to understand. Central tendency is summarized using mean and the dispersion is summarized using the standard deviation. The One-way ANOVA was used to find out the significant difference between the two groups.

Table 1: Descriptive statistics of the female students of Undergraduate Classes of P.G.G.C. -11, Chandigarh on Nutritional Awareness:

Level	N	Mean	Std. Deviation	Std. Error
B.P.Ed.	20	29.00	4.96	1.10
B.Com.	20	28.65	3.61	0.80
B.A.	20	28.20	3.27	0.73
B.Sc.	20	28.75	5.39	1.20

From table- 1, it can be seen that the mean score of the B.P.Ed. Students of Undergraduate Classes on Nutritional Awareness are 29.00 with the standard deviation 4.96. The mean score of the B.Com Student of Undergraduate Classes on Nutritional Awareness 28.65 with the standard deviation 3.61. The mean score of the B.A. students of Undergraduate Classes on Nutritional Awareness is 28.20 with the standard deviation 3.27.

The mean score of the B.Sc. students of Undergraduate Classes on Nutritional Awareness is 28.75 whereas the standard deviation is 5.39.

Table 2: ANOVA summary of the female students of Undergraduate Classes of P.G.G.C.-11, Chandigarh on Nutritional Awareness

Dependent variable		Sum of Squares	D.F	Mean Square	F
Nutritional Awareness	Between Groups	6.70	3	2.233	0.115
	Within Groups	1473.50	76	19.388	
	Total	1480.20	79		

0.05<0.951 (Degree of Freedom 3, 76)

From table-2, it can be seen that, the f-value is 0.115 which is not significant at 0.05 level of significance with the degree of freedom (3, 76) Thus, the mean scores of the female students

of Undergraduate Classes of P.G.G.C.-11, Chandigarh on Nutritional Awareness do not differ significantly. Hence, the null hypothesis that there will be on significant difference in the mean scores of the female students of Undergraduate Classes of P.G.G.C.-11, Chandigarh on Nutritional Awareness is accepted. Therefore, it may be said that the female students of Undergraduate Classes of P.G.G.C.-11, Chandigarh have similar Nutritional Awareness.

Table 3: Descriptive statistics of the female students of Undergraduate Classes of P.G.G.C-11, Chandigarh on Body Mass Index

Level	N	Mean	Std. Deviation	Std. Error
B.P.Ed.	20	20.35	3.57	0.79
B.Com.	20	21.42	2.63	0.59
B.A.	20	19.84	2.56	0.57
B.Sc.	20	20.62	3.39	0.75

From table-3 it can be seen that the mean score of the B.P.Ed students of under graduate Classes on Body Mass Index is 20.35 with the standard deviation 3.57.

The mean score of the B.Com Students of Undergraduate Classes on Body Mass Index is 21.42 with the standard deviation 2.63. The mean score of the B.A. students of Undergraduate Classes on Body Mass Index is 19.84 with the standard deviation 2.56. The mean score of the B.Sc. Students of Undergraduate Classes on Body Mass Index is 20.62 whereas the standard deviation is 3.39.

Table 4: ANOVA summary of the female students of Undergraduate Classes of P.G.G.C.-11, Chandigarh on Body Mass Index

Dependent variable		Sum of Squares	Df	Mean Square	F
Body Mass Index	Between Groups	25.98	3	8.661	0.916
	Within Groups	718.50	76	9.454	
	Total	744.49	79		

0.05<0.437 (Degree of Freedom 3, 76)

From table-4, it can be seen that the f-value is 0.916, which is not significant at 0.05 level of significance with the degree of freedom (3, 76) Thus, the mean scores of the female students of Undergraduate Classes of P.G.G.C.-11, Chandigarh on Body Mass Index do not differ significantly.

Hence, the null hypothesis that there will be no significant difference in the mean scores of the female students of Undergraduate Classes of P.G.G.C.-11, Chandigarh on Body Mass Index is accepted. Therefore, it may be said that the female students of Undergraduate Classes of P.G.G.C.-11, Chandigarh have similar Body Mass Index.

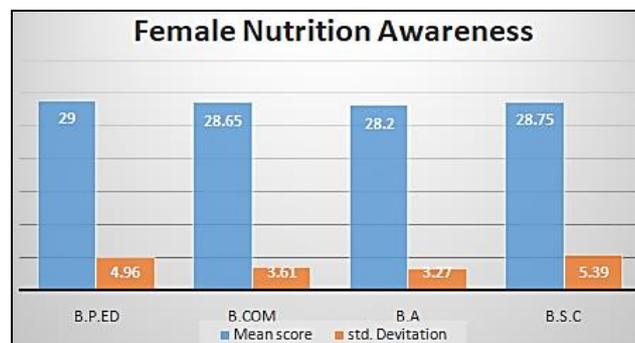


Fig 1: Graphical representation of the mean scores and standard deviation of the different Classes of Undergraduate female students on Nutritional Awareness

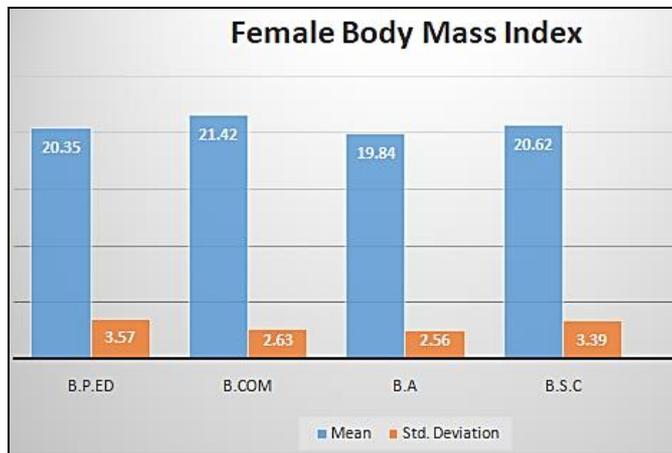


Fig 2: Graphical Representation of the mean score and standard deviation of the different Classes of Undergraduate female students on Body Mass Index

Results of the study

The results of the present study have shown that there is no significant difference between the female students of Undergraduate Classes of P.G.G.C.-11, Chandigarh on Nutritional Awareness and Body Mass Index. So, it can be said that the age and streams of the subjects have less role / influence / effect on the Nutritional Awareness and Body Mass Index while some other factors may be responsible for this act i.e. Number of sample size, institution, city, environment and the personal understanding level of the subjects.

Conclusions of the study

Based on the above analysis and within the limitations of the present study the following conclusion were drawn:

1. No significant difference was found between female students of Undergraduate Classes of P.G.G.C.-11, Chandigarh on Nutritional Awareness.
2. No significant difference was found between female students of Undergraduate Classes of P.G.G.C.-11, Chandigarh on Body Mass Index.

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