International Journal of Food Science and Nutrition
ISSN: 2455-4898; Impact Factor: RJIF 5.14
Received: 05-10-2020; Accepted: 10-10-2020; Published: 09-11-2020
www.foodsciencejournal.com
Volume 5; Issue 6; 2020; Page No. 50-52

Youth characteristics and dietary supplements expenditure

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Abstract
In the last few decades, dietary supplements in Malaysia have seen a huge growth in their varieties and number of users. These products are easily accessible to the public with or without any prescriptions by the experts. However, the information on their use especially among youth is scarce. The purpose of this study was to investigate the characteristics associated with the use of dietary supplements among 119 youths in Seremban. Analysis of descriptive statistics and Pearson Chi-Square test discovered interesting facts from the data. The youths indicated that the main reasons for consuming supplements are for maintenance of health (77.3%). Meanwhile, health status and length of supplement consumption are associated with the expenditure of dietary supplement. Results acquired have shown some understandings regarding dietary supplements usage among the youth in Seremban.

Keywords: dietary supplements, supplement study, youth and dietary supplement

1. Introduction

Good nutrition is one of the keys to a healthy life. Eating healthy food and keeping a balanced diet provide a sufficient class of nutrients to the body and improve health. The class of nutrient compounds includes vitamins, minerals, fibers, fatty acids, and amino acids, which are important to the human body. According to the World Health Organization, nutrients that are vital for disease prevention, growth, and good for health come from food. Therefore, to maintain a healthy body, a balanced diet must contain sufficient essential nutritional elements [1].

Currently, due to the differences in lifestyle and diet habits, it is difficult for everyone to maintain a healthy diet. Dietary supplements are consumed as an alternative to balance the diet.

Dietary supplements that contain minerals, vitamins, amino acids, herbs, concentrates, prebiotics, fibre, and other nutrients can come in the form of capsules, pills, lozenges, powders, gel caps, liquids, chewable, syrups or nutrient bars [2]. They have been used for many reasons, including for completing nutrient requirements, supporting digestion, improving bone strength, boosting the immune system, preventing diseases, and etc [3, 6]. Dietary supplement does not represent as conventional food because it works as an additional food to balance out the nutrient that a consumer needs and does not act as a food replacement. According to [7], the majority of dietary supplements are natural healers, easily accessible, fairly inexpensive, and natural substances that are claimed to have the ability to improve or prevent many diseases. Dietary supplements are perceived to be safe. However, the efficacy and cost-effectiveness are still being studied [8].

Being healthy should be a part of consumer's overall lifestyle goal to prevent chronic diseases and long-term illnesses. Apart from maintaining a healthy lifestyle by practicing regular exercise routine and being conscious of the diet, a consumer believes that taking supplements can be one of the routines to have a healthy lifestyle. Young athletes, university students, and graduates are among the youths who consume supplements. Thus, this paper intends to highlight the characteristics and the use of dietary supplements among them.

2. Materials and methods

2.1. Sample and Instrument

The specific population for this study consists of the dietary supplement users of age within 15 to 30 years in Seremban. Questionnaires were employed to gather the information from 119 respondents based on convenience sampling.

2.2. Pearson Chi-Square Test of Independence

The Chi-square test of independence (also known as the Pearson Chi-square test, or simply the Chi-square) is one of the most useful statistics for hypotheses testing when the variables are nominal [9]. Chi-square test is a nonparametric test [10]. The Chi-Square formula is as follows:

$$\chi^2 = \sum_{i=0}^{n} \frac{(O_i - E_i)^2}{E_i} \quad (1)$$

Where
O_i = Observed frequency
E_i= Expected frequency

3. Results and Discussion

3.1. Dietary Supplement Usage among Youths

Table 1: Use and Purpose of Dietary Supplement

Variables	Frequency (n)	Percentage (%)
How long have you been taking supplements?		
Less than 1 month	22	18.5
1-6 months	43	36.1
More than 6 months	54	45.4
How often do you take the supplement?		
Daily	69	58
Weekly	30	25.2
Monthly	6	5
Seasonally	8	6.7
Less than one time per month	6	5
Do you discuss taking a supplement with your physician (doctor/dietitian/nutritionist)		
Yes	50	42
No	69	58
What type of dietary supplement do you use?		
Vitamin A,D,C	73	61.3
Ginkgo Biloba	16	13.4
Active protein	22	18.5
Omega 3	44	37
Weight loss supplement	12	10.1
Multimineral	29	24.4
Multivitamins	53	44.5
Others	21	17.6
What is the purpose of taking the supplement?		
Maintenance of health	92	77.3
Benefit of beauty	43	36.1
Weight loss	13	10.9
Prevention of disease	34	28.6
Muscle building	20	16.8
Treatment of disease	19	16
Enhance Energy	46	38.7

The findings in Table 1 indicate three categories of supplement users. Most users consume supplement for more than 6 months (45.4%). Supplements are consumed on a daily basis (58%), followed by weekly basis (25.2%) and only 5% of the respondents consume supplements monthly or less than one time per month (5%). Besides, 42% of the respondents indicated that they do get advice before consuming any supplement. Vitamins such as A, D, C (61.3%) are preferred by them, followed by multi-vitamins (44.5%) and Omega 3 (37%). The top reasons for consuming supplement are for maintenance of health (77.3%), enhanced energy (38.7%), and benefit of beauty (36.1%).

3.2. Association between Customer Characteristics and Dietary Supplement Expenditure

Table 2: Association between Customer Characteristics and Dietary Supplement Expenditure

User's Characteristics	< RM100 (N= 78)	RM 100 - RM 150 (N= 26)	> RM150 (N=15)	*p*-value
Gender				
Male	30	8	6	0.755
Female	48	18	9	
Marital Status				
Single	57	18	7	0.129
Married	21	8	8	
Health Problem				
Yes	12	6	7	0.023
No	66	20	8	
Length of Use				
< 6 months	52	11	2	0.000
≥ 6 months	26	15	13	

The results demonstrated that gender and marital status have *p* value of more than 0.05 from Pearson Chi-Square test. Therefore, there is no association between user's characteristics with gender and marital status. In contrary, there is a significant association between user's characteristics with health problem and the length of use since the *p*-value is less than 0.05.

4. Conclusions

In this paper, the Pearson Chi-square test was successfully adopted to explain the association between user's characteristics and expenditure of dietary supplements. The results acquired show some understandings regarding youths and dietary supplements.

5. Acknowledgments

The authors would like to thank Universiti Teknologi MARA Negeri Sembilan Branch for the facilities involved in making this research a success.

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