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The Relationship between Consumption of Fast Food with Level of Serum Folat among Nursing Students of Islamic Azad University, Tehran Medical Sciences Branch in 2016

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Abstract

In recent decades, substantial increase in average weight of individuals has been seen in rich countries. Such changes are the result of significant changes in pattern of people's lives. One of these issues is increasing levels in consumption of fast foods or processed foods. According to experts, the consumption of processed foods, because of having high-calories and trans-fatty acids, is fattening and harmful. In this study, the researchers after obtaining permission from the ethics committee and head of the School of Nursing, introduced themselves to nursing students then, samples were randomly selected among those who are eligible for the study. Before performing to complete the questionnaire and relevant experiments, testimonial were asked from the subjects. At the end of the study, results were suggested that, levels of Serum folate between males and females and also among married and single people were equivalent. Level of Serum folate among those students who usually have anemia in their families is significantly lower than those ones who have not anemia in their families ($P = 0.003$). There was a significant relationship between age and semester with levels of folate ($P < 0.05$); *i.e.* by increasing age and educational terms, levels of serum folate would be reduced. The level of serum folate among students who smoke is lesser than those do not ($P = 0.001$).

Keywords

Fast Food, Serum Folate, Nursing Students

1. Introduction

Anemia is one of the most common health problems which according to the

World Health Organization, is more common in South Asia and Africa compared to the rest of the world [1]. Nutritional anemia is a major problem around the world especially in developing countries. Although iron-deficiency anemia is the most common cause of anemia; however, lack of vitamins such as B6, B12 and folic acid is also causing anemia. These micronutrients are affected directly by the increasing hemoglobin synthesis or indirectly by rising absorption of iron [2]. Studies show, increasing consumption of fast foods is related with getting more energy and obesity and also with less consumption of fruits, vegetables and healthy foods among children, adolescents and adults. Increasing the proportion of high-fat diets and high amount of energy such as fast foods along with reducing physical activities and doing works in sitting status and also lack of movement is some of important factors for gaining weight. Most of people in order to overcome emotion, stress and anxiety problems are overeating. Meantime, students, because of special circumstances, are capable of facing with stress, anxiety and poor dietary patterns (processed foods). Each of these factors can cause changes in their healthy lives [3]. By increasing rate of anemia caused by iron and folic acid deficiency and also financial crisis, the role of lifestyle modification including nutrition is more considerable than before [4].

2. Methodology

This research was descriptive-correlational that shows the relationship between fast food consumption with levels of serum folate. Descriptive-correlational is a study that the researchers clearly define the variables without any interference or manipulation of them. In other words, it is a study in which the researchers try to discover and define the relationship among variables [5]. In this study, the researchers selected randomly their samples among nursing students of Islamic Azad University of Tehran Medical Sciences branch who had eligible criteria for the study of October 2015 until December 2016, testimonial were asked from the subjects, then at the presence of the researcher questionnaires were completed. Questionnaire was inclusive three branch principal: Introduce characteristic, present illness history, nutrition and meat habits. In cases where students were academically busy, researcher went to School of Nursing or subordinate hospital of Islamic Azad University of Tehran Medical Sciences branch in other times in order to collect the questionnaires. After completing the questionnaires, blood samples were taken for testing folate among those students, who met the criteria for the study, then, the samples were sent to Bu-Ali Hospital laboratory (subordinate to Islamic Azad University of Tehran Medical Sciences branch)and level of folate serum were tested. The time of testing was at a particular time and day and also at the presence of the researchers. After collecting the questionnaires and getting the answer of tests, they were analyzed at the next step. Data analysis was done by SPSS v. 20. Descriptive statistic (frequency, mean, standard deviation) and inferential tests (independent T, Pearson correlation coefficient, ANOVA and Scheffe post hoc test) methods were used.

3. Findings

In this chapter, collected data were analyzed. In order to describe data, statistical indicators such number, percent, minimum, maximum, mean and standard deviation are used; and for data analysis t-test, Pearson correlation coefficient, ANOVA and Schiff post hoc test were applied. Relationships between consumption of processed foods with levels of folate serum have been studied among nursing students of Islamic Azad University. The population sample was about 100 students (34 males and 66 females) that are randomly selected among students of mentioned School on academic year of 2016. Table 1 shows the demographic information results. Table 2 shows the Correlation of folate serum level with monthly consumption of fast food and Table 3 shows Mean and SD of folate serum levels among nursing students also Table 4 shows Correlation between levels of folate serum with age, academic semester, height, weight and BMI.

Table 1. Absolute and relative frequency distribution among nursing students of Islamic Azad University, Tehran Medical Sciences branch in year of 2016.

Variable		N (%)
Gender	Male	34 (34)
	Female	66 (66)
Marital Status	Single	30 (30)
	Married	70 (70)
Semester	Three	10 (10)
	Four	18 (18)
	Five	9 (9)
	Six	27 (27)
	Seven	29 (29)
	Eight	9(9)
Employment Condition	No-Job	57 (57)
	Labor	15 (15)
	Employee	16 (16)
	Self-Employed	12 (12)
Residency Status	With Family	58 (58)
	Dorm	24 (24)
Smoking	No	10 (10)
	Yes	90 (90)
Alcohol Drinking	No	14 (14)
	Yes	86 (86)
Having Specific Disease	No	7 (7)
	Yes	93 (93)
Records of Anemia	No	14 (14)
	Yes	86 (86)

Table 2. Correlation of folate serum level with monthly consumption of fast food among students of Islamic Azad University, Tehran Medical Sciences branch in year of 2016.

Variable	Mess Code	Correlation Coefficient	*p*-value
Hamburgers	100	−0.257	0.01
Sausage, Salami and Ham	100	−0.368	0.0001
Chicken Nuggets	100	−0.12	0.235
Fish and Fried Shrimp	100	−0.186	0.064
Chips, Fries	100	−0.384	0.0001
Pizza	100	−0.401	0.0001
Spaghetti and Pasta	100	−0.207	0.039
Sweets	100	−0.342	0.0001
Mayonnaise Souse	100	−0.205	0.041

Table 3. Mean and SD of folate serum levels among nursing students of Islamic Azad University, Tehran Medical Sciences branch in year of 2016.

Variable	Gender	Mess Code	M	SE	T	*p*-value
Folate Serum	Male	34	5.89	5.81	0.07	0.944
	Female	66	5.97	5.39		
Folate	Single	70	5.91	5.4	0.103	0.918
	Married	30	6.03	5.85		
Folate	With Family	58	5.38	5.57	1.23	0.932
	Dorm	42	6.72	5.39		
		Smoking				
Folate	Yes	10	1.89	2.92	4.1	0.001
	No	90	6.35	5.55		
		Alcohol Drinking				
Folate	Yes	14	6.2	5.52	0.185	0.854
	No	86	5.9	5.54		
		Records of Other Disease				
Folate	Yes	7	6.01	6.47	0.034	0.973
	No	93	5.94	5.47		
		Records of Anemia in Family				
Folate Serum	Yes	14	2.52	3.82	3.35	0.003
	No	86	6.5	5.55		
		Job Condition				
Folate	Student	57	6.28	0.69	0.454	0.653
	LABOR	15	6.64	5.8		
	Employee	16	5.26	4.95		
	Self Employed	12	4.39	5.25		

Table 4. Correlation between levels of folate serum with age, academic semester, height, weight and BMI (body mass index) among nursing students of Islamic Azad University, Tehran Medical Sciences branch in year of 2016.

Variable	Mess Code	Correlation Coefficient	*p* value
Age	100	−0.227	0.023
Academic Semester	100	−0.23	0.021
Height	100	0.075	0.458
Weight	100	0.141	0.16
BMI	100	0.125	0.216

Ahmadi Khatir (2015) investigated the relationship between consumption of fast food with anemia in patients. The study was done over 100 patients who came to subordinated hospitals of Mazandaran University of Medical Sciences. The average age on that study was about 29 years-old while on the present is 22 years-old. According to Table 4, 70% of the subjects in our study were single, while this amount was about 33 percent in Ahmadi Khatir study. In our study the average body mass was about 22.55; however, this amount was about 24 in Ahmadi Khatir study; *i.e.* the average body for majority of the participants in both studies were within the normal range of 25 to 18.5. In Ahmadi Khatir study, 86 percent of subjects were lived in the city and 14 percent were in rural areas; however, in our study, all subjects, *i.e.* 100 percent of them were lived in the cities.

Farzaneh *et al.* [6] have done a study to examine the consumption of fast food among students of Khalkhalcity, EA, Iran. The numbers of participants were 150 people, of which 28% were male and 72 percent were female; while, of 100 subjects in the present study 66% were female and 34% were male.

The findings of Shojaeian *et al.* [7] in their study "comparison of folate serum among pregnant women with and without preeclampsia" showed that there is a meaningful differences in folate serum ($P = 0.001$).The average amount of folate serum in patients without preeclampsia were about 1.42 ng per liter and in the group with preeclampsia were 0.87 ng per litre, but the mean for folate serum was about 5.94 in present study. Masoud *et al.* [8] have done a research to evaluate levels of folic acid serum in patients with/without ischemic stroke. This study has been done over 40 patients with cerebral stroke and 40 healthy persons. The average level of folic acid serum in patients with cerebral stroke was about 8.40 and for healthy group was 10.87; which this average was higher than of ours study. In a study conducted by Saboktakin *et al.* [9] on 70 patients with depression Folate deficiency was observed in 51.4 percent of subjects. But in the present study, folate deficiency was observed in 53 percent of subjects. This study was conducted over 100 nursing students.

4. Conclusion

Levels of folate serum are equal in males and females and also in married and single people. Levels of folate serum in students that in their families anemia ex-

ist, are significantly lesser than those who do not have anemia in their families (P = 0.003). No statistically significant relationships between age and academic semesters with levels of folate have been observed ($P < 0.05$); by aging and passing educational semesters, levels of folate serum are reduced. Also, levels of folate serum in students who smoke were lesser than those do not smoke (P = 0.001).

Suggestions for Further Studies

1) Examining factors such as vitamins in B group in a similar study;

2) The relationship between consumption of processed food with levels of folate serum among non-healthy (patients) group;

3) The knowledge and attitude of students towards fast food;

4) The effect of fast foods and reduction of folic acid on mental health;

5) The relationship between consumption of fast foods and gaining weight;

6) Evaluation of folate serum amount among individuals.

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