



## Nutritional Behavior of Female Students of School of Paramedical and Health in Zanjan



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### ABSTRACT

**Background:** Proper nutrition is one of the important, essential and vital factors in providing individuals, family and society health and safety. The purpose of this study was to evaluate the nutritional behaviors of girl students in the school of paramedical and health of Zanjan University of medical sciences, Zanjan, Iran.

**Methods:** This cross-sectional study was conducted during the winter and spring of 2016. Throughout all girl students in the school 196 students was selected randomly. A researcher made questionnaire was used for data collection.

**Results:** As nutritional behavior only 48% of students had breakfast every day and three main serving was daily schedule in 52% of students. At least 13.8% of them ate fast foods once a week. 17.4% of students ate cheeps, puff and snacks as routine. Just 23.5% of them never drank carbonated drink. Different herbal tea was in daily nutrition of 3.6%.

**Conclusion:** Due to the mentioned results and some wrong behavior and nutritional loss in the students, it seems important to designing suitable training programs to improve nutritional behaviors and avoiding from use of fast foods, poor quality food and in general, providing a healthy nutrition behavior for students is essential.

## 1. Introduction

Proper and useful nutrition is one of the important, essential and vital factors in providing individuals, family and society health and safety.

Suitable food provides movement and activity, satisfaction, vitality and ability to fight with the health problems as well as the health of the next generations [1, 2]. There are different food patterns between people at different levels of

socioeconomic status, races, societies and cultures, and the socio-economic development of any society is directly related to their nutritional behaviors [3]. Prevalence of malnutrition, lack of diversity in dietary patterns and the limited nutrition to consume of foodstuffs is very significant in Iran, as the presence of micronutrient deficiencies such as iron, iodine, calcium and vitamins deficiencies is seen in about

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50 percent of Iranians [4].

The most effective way for assuring the safety of a drinking water supply system is using the Malnutrition in Iran due to excessive consumption of carbohydrates (170 grams per day), or low intake per capita of dairy products is seen in 18 to 20 percent of people in compare with advanced countries (450 grams per day) [4, 5].

Lack of food and malnutrition has been major health problems for human societies. Today, in many countries the main problem is no attention to the nutrition health and using of inappropriate and poor quality foods which causes many diseases including obesity, diabetes, cardiovascular disease and cancer [6, 7]. Studies in Iran show that 30-50 percent of women suffer from iron deficiency anemia [8, 9]. Proper nutritional behaviors is an important issue for prevention of diseases especially non-communicable diseases [9, 10].

Diseases, mortality and medical expenses can be decreases through healthy nutrition and regular physical activity as parts of health promoting behaviors, and changing wrong nutritional behaviors is the best way to improve the life quality [6, 9].

Nutrition problems are common worldwide [6].

Results of an Italian study showed high consumption of meat products, sauces and animal fats in low education people and higher consumption of vegetables, fish, olive oil, milk and egg in people with high education [9]. The prevalence of malnutrition is very common in Iran. Shahbazi et al., in a research on nutritional behavior of high school students showed that inappropriate nutrition of students is increasing in Iran. Another study in 23 counties of the Iran showed bad nutritional behaviors in 6-18 years students [11, 12]. Sajjadi et al. also reported that nutritional status in Tehran secondary high schools was moderate and good in 88% and 1.3% of students, respectively [13, 14]. Some of these behaviors are high consumption of some foods such as rice, pasta, and high-fat foods and less consumption of fruit and vegetables [1]. There is no diversity in dietary patterns in Iran and

nutritional behavior is limited to consume certain specific nutrients [3]. Some young people do not get enough food and others choose poor food [6].

Inappropriate nutritional behavior is widespread in the community and is more common in women and nutrition disorders are major threats to physical and mental health of girls [10].

It is important to identify nutrition behaviors in different groups especially in medical students who are act in their future as an effective factor in changing individual's health behavior. Change in diet of students can be a reflex of their knowledge and attitude towards change nutrition behavior as one of the important healthy life styles [15, 16].

Women role in providing health of family members is undeniable, so determination of their nutrition behavior seems very important. As the model of the future mothers in the community, female students are not except of this field. Therefore, the purpose of this study was to evaluate the nutritional behaviors of female students in the school of paramedical and health of Zanjan University of medical sciences, Zanjan, Iran.

## 2. Materials and Methods

This cross sectional study was conducted to determine the nutritional behavior of female students in school of paramedical and health in Zanjan University of medical sciences in winter and spring of 2016. All female college students (396 student) in all disiplinary of faculties (environmental health, general health, professional health, laboratory sciences, radiology and occupational therapy) formed our statistical community which 196 people of them were selected randomly using Cochran's formula  $n = (NZ^2 \times pq) / (Nd^2 + z^2 \times pq)$ . The student's satisfaction to participation was our criteria for entering them to study.

Self-designed two-part questionnaire by researchers was used as data collecting tool.

Validity and reliability of questionnaire were confirmed by relative experts and preliminary

pilot study, respectively. Preliminary scientific validation of questionnaire and assessment of clarity and suitability of wording, in addition to the average time needed for its completion was evaluated by an e-mail invitation of 10 academician experts of different universities of Iran. Reliability of the questionnaire was determined using a pilot study with 25 students of faculty and calculation of Validity Index (VI), Content Validity Ratio (CVR), Impact Source (IS) and measurement of Cronbach's alpha coefficient ( $\alpha=0.7$ ). The first part includes demographic characteristics of the students (Table 1) and the second part related to nutritional behavior (Table 2) included 32 questions. Five options Likert scale including (always, often, usually, sometimes never) was used for scoring with given points (1-23-4-5), respectively. Collected data was analyzed using SPSS software (Ver.16, MO,TL) by ANOVA one way and paired samples T-test statistical tests at a significant level  $p < 0.05$ .

### 3. Results and Discussion

Results indicated that 77%, 12% and 11% of students had normal, higher and lower than normal BMI, respectively (Table 1). In terms of nutrition behavior, 1.5% of students never had breakfast, and 48% had breakfast every day. In the daily diet, 52% of them had three main meals. 13.8 percent of students consumed ready to eat (RTE) food at least once a week. 17.4% of students used potato chips, puffs and snacks daily.

Only 23.5% of them did not have carbonated drinks. Different herbal teas were used in daily diet of 3.6% of students but 32.1% of them never used it. It was normal to add salt to food in 19.9% of students. 11.2% of students consumed vegetables in their daily diet. 8.2% of them had milk every day and 8.2% never consumed milk in their diet. Daily intake of tea and fruits were seen in 67.7% and 36.7% of students, respectively. All of them ate fruits. About 10.2% of them never used fast food. 8.7% of the students ate egg.

11.2% of them always were consumed grains.

27% also had a daily intake of meat. Only 1% of them always ate nuts. About 49% of students

consumed daily pasta and rice, and it was not found that they had never eaten rice or pasta in their diet.

Due to statistical analysis of the results, Students' nutrition behavior did not show any significant difference with age, BMI, marital status, place of residence and parents education, but there was a significant difference with the field of study ( $p < 0.05$ ). The most and least significant relationships were in the fields of environmental health and occupational therapy respectively.

As a basic principle in nutrition science, the daily intake of various food groups was very unbalanced in the studied students (Table 2).

Intake of some groups such as dairy products, vegetables, fruits and some alternatives to meat such as egg are inadequate among students and their consumption replaced with soft drinks, snacks and fast food. Incidence of many disorders including obesity, diabetes, cancer, stroke, and cardiovascular disorders is decreased by diet rich in fruits and vegetables and reducing consumption of ready to eat (RTE) food. Such inappropriate nutritional behaviors have also been reported in other studies [17].

In Dadi Pour et al., study results showed that the consumption of RTE and unhealthy food in the college and educated students is more than the others due to the low cost and quick and easy access to RTE and the lack of time for students [18, 19, 20]. Accommodation in a dormitory, lack of experience in cooking, and entertainment for them can be considered as reasons for the tendency of adolescents to consume RTE food [21, 22]. Khalaj and Mohammadi also reported that milk, fruits and vegetables consumption were less than the recommended values in college students. Food availability and no wasting the time are the most important factors affecting the nutrition behavior of individuals [9].

In this study, salt consumption with food and salty food (snacks) were observed. 19.9% of individuals added salt to food and 23 % of the students usually consumed snacks. Consumption of snacks such as potato chips and puffs which have high levels of salt and oil will cause to get

accustom to their taste and in consequences disease [23].  
incidence of hypertension and cardiovascular

**Table 1:** Demographic characteristic of female students in school of health and paramedical.

	Criteria	Number	Percent
Age	18-25	183	93.4
	26-32	7	3.5
	>32	5	2.5
Field	General health	65	33.2
	Environmental health	30	12.2
	Professional health	24	15.3
	Radiology	30	18.9
	Laboratory sciences	37	15.3
	Occupational therapy	6	3.1
Father's education	Under diploma	64	32.7
	Diploma	72	36.7
	Associate	19	9.7
	Bachelor	27	13.8
	Master and higher	10	5.1
Mother's education	Under diploma	101	51.5
	Diploma	62	31.6
	Associate	10	5.1
	Bachelor	18	9.2
	Master and higher	2	1
Address	Dormitory	156	79.6
	Non-dormitory	40	20.4
Marital status	Single	169	86.2
	Married	27	13.8
BMI			
Low weight	18.5>	22	11
normal	18.5-25	149	77
High weigh	25-30	19	10
Obesity	30-35	4	2

**Table 2:** Girl students' nutritional behaviors in faculties of health and paramedicine.

Nutrients are in my daily program food	Always (%)	Often (%)	Usually (%)	Sometimes (%)	Never (0%)
1- Conserve	3.1	10.2	12.2	58.7	14.8
2- Yoghurt	12.8	34.2	24	26	3.1
3- Cheese	36.7	34.2	11.2	14.8	2.6
4- Milk	8.2	19.9	30.1	33.7	8.2
5- Juice	5.1	13.8	29.6	45.9	5.6
6- Fruits	36.7	30.6	21.4	10.2	0
7- Vegetables	11.2	24	27.6	34.7	2.6
8- Nuts	1	13.3	23.5	52	10.2
9- Fruit roll-ups	4.1	12.8	15.3	51.5	16.3
10- Puff and cheeps	3.1	12.8	23	50.5	10.7
11- Biscuits and cake	10.2	30.1	30.6	24.5	4.6
12- Carbonated drink	1	4.6	16.3	54.5	23.5
13- Dough	4.6	24.5	30.1	35.2	5.6
14- Fish	6.1	20.4	29.1	39.3	4.6
15- Bread	69.4	18.9	8.2	3.6	0
16- Fast food (sandwich and pizza)	2	11.2	24.5	52	10.2
17- Grains	11.2	37.8	34.2	15.8	0.5
18- Meat (red and white)	27	39.8	20.9	10.7	1
19- Ice cream	11.7	26.5	30.6	27	2
20- Rice and pasta	49	35.2	12.8	3.1	0
21- Dried fruits	5.1	24	36.2	32.7	2
22- Egg	8.7	37.8	30.6	17.9	3.6
23- Pickles	7.7	26.5	31.6	26.5	7.7
24- I have breakfast every morning	48	24	11.2	14.8	1.5
25- It's two main meal in my food program daily	57.1	17.3	6.6	10.2	7.7
26- It's three main meal in my food program daily	52	21.9	11.7	10.7	1.5
27- I have fast food at least once a week	13.8	15.8	17.9	34.2	15.3
28- I have fast food at least 1-3 in a week	6.1	7.7	9.2	27.6	48
29- I drink herbal remedies daily	3.6	5	9.7	46.9	32.1
30- I add salt to food during serving it	19.9	16.3	13.8	29.1	19.4
31- There is animal oil in my food program daily	1.5	8.7	5.6	21.9	60.2
32- I drink tea daily	67.9	16.3	4.6	5.6	5.1

In present study, only 48 percent of students ate breakfast every day. No eating breakfast in a relatively long period can have an unpleasant impact on the behavior and health of individuals [9]. Many observational studies have concluded that breakfast intake has a reversible relation with obesity and chronic illness [6]. Shahbazi et al., reported that more than 18% of Yazd high school students did not eat breakfast daily and their most important reason was that they could not eat anything in the early morning [13]. In a study conducted on high school students in Urmia, 52% of them did not eat breakfast [24]. In another study on adolescents in Tehran, breakfast was the least consumed meal and more than 20% of students refused to eat it Compared to studies from other countries recorded by the World Health Organization (WHO), breakfast has not been eaten due to lack of food at home [12]. Doubis et al., indicated that encouragement to eat breakfast among preschool children is likely reduce the incidence of obesity [25]. The results of a study conducted by Pan on Asian students showed that 46 percent of them did not consume breakfast as a result of school hours and classes [23]. In the present study, few students consumed beans, eggs and meat, while 67.9% of them consumed tea daily. Studies showed that low consumption of these substances and high drinking of tea at short intervals with food leads to anemia [7].

A survey on blood lipid and glucose in Tehran by Mir Miran et al. showed that diet pattern in 74% of Iranian adolescents needs to improvement and only 23% of them had healthy dietary patterns. One of the reasons of nutrition problems in the world is the lack of nutrition knowledge and consequently inappropriate performance in this category, which causes problems such as malnutrition and various non-communicable diseases [6]. Carnie's study showed that training and nutrition advice to US obese black women has been effective in reducing their weight and has led to a change in their eating habits [26]. Mobasheri also reported that nutritional counseling and education has been effective in improving the nutritional status of adults [3]. The first step in training of nutrition behavior is to increase awareness about the importance of nutrition.

Increasing in nutrition awareness can lead to replace wrong nutrition behaviors with right nutrition behaviors. In training of nutrition the subject of community culture has important role because of food habits and behaviors of people are different in various society [9].

#### 4. Conclusion

Given to obtained results of this study and similar studies, it seems determination the patterns of nutrition behavior is necessary for different groups of society. The results can provide background information to promotion of nutrition behaviors in different groups and thereby prevention the various diseases associated with unhealthy nutrition and achieve to health and well-being.

Therefore, due to some wrong nutritional behaviors in students, proper training programs are recommended to improve and avoiding consumption of poor quality and ready to eat (RTE) foods. It is suggested to design appropriate programs by the relevant authorities.

#### Conflict of Interest

Authors declared there is no conflict of interest regarding the publication of this article.

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