



## Student's characteristics and fast food consumption

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### Abstract

### Original Article

**BACKGROUND:** Fast food consumption is one of the risk factors for human health. The present study was conducted with the objective to investigate how students' characteristics (attitude, control beliefs, and normative beliefs) motivate the consumption of fast food.

**METHODS:** In this cross-sectional study, a total number of 401 students of Kurdistan University of Medical Sciences, Sanandaj, Iran, were randomly selected and studied in 2015. A questionnaire was administered to collect information about student's demographic characteristics as well as their attitudes and beliefs towards using fast food. Correlation analysis and multivariate analysis of variance (MANOVA) followed by univariate ANOVA were used to interpret the results.

**RESULTS:** The mean age of participants was  $21.20 \pm 2.80$  years and 254 (67.20%) of them were female. Furthermore, 60.54% of the students were found with tendency to use fast food. The MANOVA analysis showed that the effect of gender on students' characteristics was significant ( $P = 0.005$ ), however the effect of grade was marginally insignificant ( $P = 0.053$ ). Post-hoc univariate ANOVA showed that the gender was highly associated with control beliefs ( $P = 0.030$ ) and normative beliefs ( $P = 0.004$ ). No significant association was found between gender and student's attitude ( $P = 0.610$ ).

**CONCLUSION:** A training program for medical students in Kurdistan University of Medical Sciences is recommended to encourage students to reduce the consumption of fast food.

**KEYWORDS:** Attitude, Beliefs, Fast food, Students

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### Introduction

In recent years, chronic diseases such as diabetes mellitus (DM), hypertension, and cardiovascular diseases (CVDs) have been growing. One of the main causes of these diseases is community's inappropriate nutrition. Over the past decade, an increased prevalence of obesity and calorie intake has been proven.<sup>1-3</sup> One obvious reason for that is

the tendency to eat meals outside home.<sup>4</sup> One of the important factors influencing the development of chronic diseases is food patterns and habits. For this reason, nowadays, medical sciences consider the nutritional factors as an important aspect of lifestyle causing the growing incidence and spread of the disorders and diseases.<sup>5-7</sup> Controlling the nutritional factors and proper nutrition in different ages can play a key role in prevention and management of the diseases, especially chronic diseases, and the findings of scientific studies have been always emphasizing this

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matter. In recent years, many studies have been carried out in this field indicating that many middle age chronic disorders and illnesses are due to the lack of proper nutrition and imbalances in the consumption of fats among the adolescent and youth.<sup>8-11</sup>

According to studies in the United States, 42% of children and 37% of adults consume fast food. In a scientific definition, attitude can be regarded as having relatively stable feelings, tendencies, or a set of beliefs directed toward an idea, person, or position.<sup>12,13</sup> Self-control beliefs lead to setting goals and creating plans for the chosen behaviors and additionally normative beliefs- the ways in which, one thinks about the expectations of the important people in her/his life, concerning her/his behaviors.<sup>14</sup> For example, type 2 DM is a chronic and very important disease and a major health issue spreading around the world. Giving the high prevalence of DM and its direct and indirect costs, self-control is very important.<sup>15,16</sup> The high and uncontrolled consumption of fast food leads to an increase in the intake of calories, saturated fatty acids, sodium, carbohydrates, and added sugars, while decreasing fiber, vitamins, and minerals intakes. It also increases blood cholesterol and chances of developing chronic and non-contagious diseases such as obesity, CVDs, type 2 DM, osteoporosis, and some cancers.<sup>11,13,15</sup> Considering the lack of such studies in Kurdistan University of Medical Sciences, the aim in this study was to determine the relationship between attitude and beliefs and the consumption of fast food among students of Kurdistan University of Medical Sciences.

### Materials and Methods

This study was a descriptive-analytic cross-sectional study carried out among the students of Kurdistan University of Medical Sciences in 2015. For this study, 401 male and female students were selected and classified by their

disciplines. Of the 5 affiliated schools of Kurdistan University of Medical Sciences (medicine, dentistry, nursing and midwifery, paramedical, health), each school was considered as a stratum. Within each stratum, students were randomly selected in proportion to the enrollment size for each entrance year. Participants were asked to complete a questionnaire designed to measure the tendency of students towards eating fast food. The questionnaire was approved in terms of its reliability and validity (Cronbach's alpha = 0.85).<sup>1</sup> To collect information, the questionnaire was divided into two sections. At first section, personal information such as age, gender, grade, and the field of study was collected. The second part included questions based on educational theories of rational and cognitive social activities regarding tendency to consume fast food, as well as attitude, control beliefs, and normative beliefs. For each question, responders had three choices; 'not at all', 'neutral', and 'quite like it'. When collecting data, a multivariate analysis of variance (MANOVA) followed by univariate ANOVA were used to investigate potential association between dependent variables (attitude, control beliefs, and normative beliefs) with student's covariates including age, gender, and grade.

### Results

As the information of 23 of the questionnaires was incomplete, they were removed from the total number. Finally, data on 378 questionnaires were analyzed. The mean age of the participants was  $21.20 \pm 2.80$  years and 254 (67.20%) of them were female. In general, regardless of gender, 60.54% of students tended to eat fast food. In this study, 60.15% of the male students and 60.77% of the female students were interested in eating fast food, so that in most disciplines, more than 60% of students responded positively to the items about consumption of this group of food.

**Table 1. Mean  $\pm$  standard deviation (SD) of the score of attitudes, control beliefs, and normative beliefs of students studying at Kurdistan University of Medical Sciences, Sanandaj, Iran**

Field	Component	Attitude	Control beliefs	Normative beliefs
		Mean $\pm$ SD	Mean $\pm$ SD	Mean $\pm$ SD
Operating Room		62.07 $\pm$ 11.09	50.64 $\pm$ 9.24	12.64 $\pm$ 4.69
Midwifery		61.17 $\pm$ 10.05	51.65 $\pm$ 13.20	11.31 $\pm$ 5.26
Nursing		59.56 $\pm$ 10.75	50.47 $\pm$ 9.03	15.03 $\pm$ 7.09
Radiotherapy		62.50 $\pm$ 7.03	46.80 $\pm$ 10.20	14.30 $\pm$ 6.56
Medical Laboratory Sciences		60.60 $\pm$ 10.47	51.30 $\pm$ 9.27	11.94 $\pm$ 5.05
Emergency Medical Science		63.87 $\pm$ 8.15	51.50 $\pm$ 7.78	11.62 $\pm$ 4.87
Radiology		62.45 $\pm$ 6.15	49.36 $\pm$ 8.21	11.36 $\pm$ 4.13
Anesthesiology		61.76 $\pm$ 10.28	53.12 $\pm$ 8.67	11.67 $\pm$ 4.05
Public Health		65.86 $\pm$ 12.86	55.00 $\pm$ 10.10	14.28 $\pm$ 5.75
Occupational Health		60.08 $\pm$ 10.48	49.28 $\pm$ 11.24	14.56 $\pm$ 7.65
Environmental Health		55.44 $\pm$ 12.36	53.12 $\pm$ 9.60	10.53 $\pm$ 4.49
Health Education		NA*	NA	NA
Anatomy		47.00 $\pm$ 2.83	40.00 $\pm$ 2.83	10.50 $\pm$ 4.95
Epidemiology		59.50 $\pm$ 2.12	52.00 $\pm$ 7.07	9.00 $\pm$ 4.24
Microbiology		NA	NA	NA
Immunology		63.33 $\pm$ 11.37	52.67 $\pm$ 2.52	8.00 $\pm$ 2.64
Dentistry		62.95 $\pm$ 9.77	50.33 $\pm$ 8.66	12.62 $\pm$ 5.02
Molecular Medicine and Genetics		NA	NA	NA
Medicine		58.80 $\pm$ 11.44	52.69 $\pm$ 8.23	11.13 $\pm$ 4.57
Total		60.54 $\pm$ 10.67	51.36 $\pm$ 9.62	12.73 $\pm$ 5.84

\* Not Available; SD: Standard deviation; Results given with respect to students' field of study

However, fast food consumption among midwifery and immunology students were not very popular. In determining control beliefs and normative beliefs in terms of the underlying variables among the students, based on sexual breakdown, these rates were 49.92%, 13.81% and 52.62%, 12.20% among males and females, respectively. In general, these values were respectively as 51.36% and 73.33% among all students. Attitude, control beliefs, and normative beliefs among the students based on their fields of study and grade are shown in tables 1 and 2.

MANOVA was used to examine the relationship between attitude, control beliefs,

and normative beliefs simultaneously with underlying variables of age, gender, and grade. The results are shown in table 3.

Table 3 shows that in a general view and considering the correlation between variables of age, gender, and degree at the 0.050 level, gender had a significant relationship with attitude, control beliefs, and normative beliefs. Grade was significant at the 0.100 level. To understand which variables (attitude, control beliefs, and normative beliefs) had a significant relationship with gender ( $P = 0.005$ ), one-way ANOVA was used for post-hoc test; the results are shown in table 4.

**Table 2. Mean  $\pm$  standard deviation (SD) of the Attitude, control beliefs, and normative beliefs among the students according to their educational level**

Source	Grade	BSc	MSc	PhD	Total
		Mean $\pm$ SD	Mean $\pm$ SD	Mean $\pm$ SD	
Attitude		61.01 $\pm$ 10.49	53.17 $\pm$ 12.11	59.78 $\pm$ 10.79	60.54 $\pm$ 10.67
Control beliefs		51.18 $\pm$ 9.90	52.17 $\pm$ 9.30	52.04 $\pm$ 8.40	51.36 $\pm$ 9.62
Normative beliefs		13.02 $\pm$ 6.02	11.83 $\pm$ 6.22	11.57 $\pm$ 4.74	12.73 $\pm$ 5.84

BSc: Bachelor of sciences; MSc: Master of sciences; SD: Standard deviation

**Table 3. Results of multivariate analysis of variance (MANOVA)**

Source	Statistic F	P
Age	0.0639	0.978
Gender	4.2925	0.005
Grade	2.0835	0.053

Univariate results in table 4 indicated that gender was related to control beliefs and normative beliefs, but it had no relationship with attitude.

### Discussion

Nowadays, due to lifestyle changes, the tendency to eat fast food, especially among young people has increased. The results of this study showed that 60.54% of students in Kurdistan University of Medical Sciences tended to use fast food and in general, at the 0.050 level, the student gender had a significant relationship with attitude and control beliefs. Grade was significant at the 0.100 level. In a study by Barati et al. on the relationship between attitudes, effective beliefs, and consumption of fast food among students of Hamedan University of Medical Sciences, Hamedan, Iran, it was suggested that eating oven-ready foods among male students living in dormitories was higher, indicating the necessity to establish the proper attitudes and beliefs regarding the consumption of oven-

ready food among students. In addition, in this study, undergraduate students, students living in hostels, health students, single students, and the students in the age group of 21-25 years with rates of respectively 64.8%, 80.8%, 26.4%, 92.4%, and 65.6% had the highest number of participants, which is consistent with the results obtained in the present study.<sup>1</sup> According to this study, there was a significant relationship between attitude and variables such as having a diet, weight loss, and residence. Normative beliefs had a significant relationship only with gender and educational grades. Males were also more likely to be impressed by the approval of others to consume oven-ready food.<sup>1</sup> In a study conducted by Dadipoor et al. on the factors associated with the consumption of prepared food in Bandar Abbas, it was suggested that 52 of the participants were male and 303 (50.5%) preferred pizza as fast food. People under the age of 25 years had a higher rate of consumption of fast food compared to other age groups. Educated university students consumed more fast food in comparison to the students in other educational grades. In the afore-mentioned study, it was concluded that the consumption of fast food could be observed more in young people with college education, which is similar to the findings of the current study.<sup>17</sup>

**Table 4. Results of post-hoc univariate analysis of variance (ANOVA). In each ANOVA, the score of attitude, control beliefs, and normative beliefs was used as response variable**

	Source	Coefficient	Standard error	Statistic T	P
Attitude	Age	0.171	0.212	0.806	0.421
	Gender (Female)	0.618	1.225	0.504	0.614
	Grade(MSc)	-8.430	3.235	-2.606	0.009
	Grade(PhD)	-1.289	1.440	-0.895	0.371
Control beliefs	Age	0.145	0.192	0.755	0.451
	Gender (Female)	2.414	1.107	2.180	0.030
	Grade(MSc)	0.891	2.923	0.305	0.761
	Grade(PhD)	0.979	1.301	0.752	0.452
Normative beliefs	Age	-0.114	0.115	-0.991	0.322
	Gender (Female)	-1.940	0.666	-2.914	0.004
	Grade(MSc)	-1.062	1.757	-0.604	0.546
	Grade(PhD)	-1.483	0.782	-1.903	0.058

BSc: Bachelor of sciences; MSc: Master of sciences

In another descriptive cross-sectional study carried out by Najmabadi et al. on the fat composition intakes of daily dietary among students, it was shown that by planning nutritional training and counseling toward increasing nutritional knowledge and awareness, students should be advised on choosing the correct and balanced food patterns. Moreover, regarding planning a diet for a group of people, it was declared that the taste and the selected nutritional style could be modified by applying a proper nutritional pattern including reduction of the dietary fats. Furthermore, other important points in these findings are the existence of a significant statistical difference between the amount of fat intake among male and female students. There was also no statistically significant difference in the composition of fat received between students located in dormitories and at home. In other words, over-intake of fats with similar compositions (supersaturated fats and high cholesterol) was reported in both groups.<sup>10</sup> In a descriptive study conducted by Mirmiran et al. assessing the dietary intake by residents of District 13 of Tehran, Iran, in the age group of 20-59 years old, the male gender was more consistent with the recommendations of the pyramid in milk, dairy, bread, and cereals groups, meanwhile women met this standard in the vegetable and fruit group.<sup>18</sup> In another study entitled "Consumption of fast food in Yazd", Iran, Fazelpour et al. highlighted this issue and suggested reasons for the increased consumption of fast food among students, including living in a dormitory and being away from the family, lack of sufficient skills in cooking, indolence, entertainment, and being impressed by friends. In addition, the results of this study indicated that men were more likely to use oven-ready food compared to women.<sup>19</sup> In the study by Jazayeri, the results showed that eating fast food had been observed in 97.5% of university students and 93.3% of unemployed participants. Therefore,

most consumers of fast food were male, young, single, and students. This finding reveals that young people do not have sufficient knowledge and experience about healthy nutrition, and they do not believe that chronic diseases such as DM and high blood pressure may begin at young ages. Hence, the rate of consumption of fast food is too high among them. As people grow older, regarding the increase in knowledge and risk perception, they pay more attention to health.<sup>20</sup>

### Conclusion

Based on the results of this study, 60.54% of students intended to consume fast food. Therefore, it is necessary to establish an intervention to warn students about the harmful consequences of using fast food. Achieving this goal requires appropriate informing, educational programs, and rich cultural practices in this field.

### Conflict of Interests

Authors have no conflict of interests.

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