



# University Student's Attitude and Nutritional Status: The Role of Social Networking

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## Abstract

**Introduction:** Some studies indicated that membership in social networks could lead to overweight or obesity. Other studies showed that social networks and the Internet could affect people's nutritional status. Therefore, this study aimed to examine the effect of social networking on students' attitudes and eating habits.

**Methods:** This study is a descriptive survey conducted among students. A questionnaire designed in four main parts to measure students' nutritional status and attitude was used as an instrument. Three hundred sixty-four (364) students participated in this study. In addition, a Chi-square test was used to determine the relationship between the variables.

**Results:** Most participants in this study were female and single, and Telegram was the social network with the most users. The participants believed that spending time on social networking did not significantly change their tendency to get more nutritional information. Also, respondents to the questionnaire stated that there was no significant change in their food consumption patterns following social networking. Moreover, the results explained a statistically significant difference in the participants' dietary beliefs due to social networking ( $P < 0.001$ ).

**Conclusion:** Although the effect of social networking on users is a fact, and most of the participants used social networking and were members of several channels, the role of social networking in students' nutrition status was not confirmed. However, social networking could change the students' nutritional beliefs.

**Keywords:** Social networking, Medical student, Attitude, Nutritional status, Nutrition surveys



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## Introduction

A healthy diet can considerably affect an individual's health. Healthy food provides the body with essential nutrients and can promote well-being (1, 2). Healthy eating is rooted in food habits which are intertwined with the culture in such a way that different people have different food preferences (3). In addition to culture, social networking can influence diet and change food habits (4).

A social network is a platform that allows people with similar interests to come together and share information, photos, and videos (5). For example, Facebook, Instagram, and Twitter are widely used social networking platforms (6) with numerous users (7, 8). Also, Telegram is another popular social network among the world's people, especially Iranians,

because of its many capabilities (9). In addition, social networking has been used to promote Internet-based lifestyles with easy access to text, audio, and video, without the time and place constraints and dependence on a person or group (4, 10).

There are many different reasons for using social networks (11). For example, self-disclosure (72.56%) has been the most important reason for attracting a Facebook audience (12). Other social network incentives included improving personal status, immersing in the media, searching for information, undergoing education, spending time, and maintaining relationships (12-14). Furthermore, social networks made up of family members or friends, neighbors, co-workers, and acquaintances can significantly impact health, health behaviors, and

the ability to change behavior (15-18). For example, some studies indicated that membership in social networks could lead to overweight or obesity (19, 20). Other studies showed that social networking and the Internet could affect people's nutritional status. These networks play an important role in making the body attractive and ideal by providing special diets. For example, they introduce beautiful clothes to make people's bodies look lean, promoting nutritional behavior changes and sometimes dissatisfaction with the body (21, 22). In addition, some studies have shown that weight gain on social networking can spread from person to person (23-25). Moreover, a study in Egypt argued a relationship between spending time on social networking and weight loss (26). However, some studies have suggested that more evidence is needed to confirm the impact of social media on weight-related behaviors (23-25). Therefore, this study aimed to examine the effect of social networking on students' attitudes and eating status.

## Methods

This study was a descriptive cross-sectional survey conducted among students of Ahvaz Jundishapur University of Medical Sciences (AJUMS). 364 out of 7189 students of AJUMS participated in this study and filled out a questionnaire. The questionnaire was distributed only among students living in the dormitories due to the difficulty accessing all students. Therefore, To select the we used the convenience sampling method. The questionnaire was designed in four main parts to measure the students' nutritional status and attitude. The first part of the questionnaire included seven questions to determine the resource of nutrition knowledge of the participants. The second part of the questionnaire consisted of six questions with a five-point Likert scale from very low to very high (very low, low, somewhat, high, very high) to determine the effect of social networking on changing a person's tendency for nutritional information. The third part of the questionnaire consisted of seven questions with a five-point Likert scale (less than half, half, unchanged, doubled, and more than doubled) to measure the impact of using social media on changing the amount of food consumption. Finally, the fourth part of the questionnaire included 12 four-choice questions to assess the attitude changes on nutrition due to social networking. Also, demographic data, including gender, age, degree, field of study, height, weight, and marital status were collected. All participants provided written informed consent, and the confidentiality of the participant's information was

maintained throughout the research process. Faculty members of AJUMS confirmed the questionnaire's validity, and its reliability was measured by using experimental research on university campuses and using test-retest with a 98% correlation. Data were analyzed using descriptive statistics. The Chi-square test was conducted to determine the relationship between the variables. In the statistical analysis, the answers were scored from 1 to 5 (with an average of 3).

## Results

Most participants in the study were female (71.5%) and single (90.3%). The mean age, height, and weight of the participants were 23.16 ( $\pm 0.50$ ;  $\alpha=0.05$ ) years, 166.63 ( $\pm 1.61$ ;  $\alpha=0.05$ ) cm, and 62.59 ( $\pm 1.55$ ;  $\alpha=0.05$ ) kg, respectively. The results indicated that there was no statistically significant relationship between demographic data (gender, age, weight, and BMI) and the participants' answers to the questionnaire (the participants' attitudes) ( $P>0.05$ ).

In addition, the results showed that the participants obtained nutritional information from social networks (45%), T.V. and radio (12%), family (26%), and books (20%), respectively. Moreover, Telegram (92%) was the social network with the most users among the participants, followed by Instagram (60%), WhatsApp (58%), and Twitter (4%). Also, some participants were members of several social networks simultaneously, and more than 75% were active in more than four channels, groups, or pages, some of which (in 36% of cases) had nothing to do with nutritional information. In addition, more than 50% of the participants had a history of social networking for more than one year.

As shown in Table 1, the participants believed that spending time on social networks did not significantly change their tendency to get more nutritional information (mean= $2.59\pm 0.27$ ;  $\alpha=0.05$ ).

Also, respondents to the questionnaire stated that there had been no significant change in their food consumption pattern following social networks (mean= $2.97\pm 0.14$ ;  $\alpha=0.05$ ). More details are shown in Table 2.

Moreover, the results of the McNemar test (a nonparametric test) explained that there was a statistically significant change in the participants' dietary beliefs due to social networking ( $P<0.001$ ). However, on average, 79% of the participants had not changed their beliefs before and after social networking. Table 3 shows more details about the relationship between dietary beliefs and social networking.

**Table 1:** The participants' attitudes about the impact of social networks on the tendency to get nutritional information

Statement	Mean*	CI**
To what extent do you tend to join or follow nutrition channels, groups, or pages managed by a nutritionist?	2.95	±0.23
To what extent do you tend to join or follow nutrition channels, groups, or pages managed by a non-expert?	2.23	±0.21
To what extent do you trust the nutritional information from social networking?	2.77	±0.18
To what extent have you been influenced by the dietary patterns presented on social media?	2.70	±0.19
To what extent do you tend to join or follow nutrition channels, groups, or pages to change weight?	2.45	±0.24
To what extent do you tend to join or follow nutrition channels, groups, or pages that promote weight change?	2.46	±0.22

\*The range was considered from 1 to 5 with a mean of 3. \*\* Confidence Interval, ( $\alpha=0.05$ )

**Table 2:** The participants' attitudes about the impact of social networking on their food consumption pattern

Food items	The mean of consumption change*	CI**
Milk and dairy	3.04	±0.17
Vegetables	3.01	±0.16
White and red meat	2.92	±0.14
Beans	2.95	±0.13
Fruits	3.20	±0.17
Bread and cereals	3.01	±0.13
Fast foods and fried foods	2.96	±0.19

\*The range was considered from 1 to 5 with a mean of 3. (from decrease to increase, three as no change). \*\*Confidence Interval, ( $\alpha=0.05$ )

**Table 3:** The MacNemar test results of changes in the participants' dietary beliefs due to social networking

Beliefs	P value*
Consumption of peppers, especially red pepper, increases appetite and obesity.	P<0.001
Consumption of fruits, vegetables, and whole grains reduces the risk of heart disease and high blood pressure.	P<0.001
Sauna is a method of reducing body fat.	P<0.001
Eating fast food more than twice a month causes obesity and overweight.	P<0.001
Lemons have a lot of sugar and are not suitable for people with diabetes.	P<0.001
Jelly can be used for facial obesity.	P<0.001
Eating cheese alone (without walnuts) causes dullness.	P<0.001
Eating breakfast reduces calorie intake throughout the day and helps achieve weight loss.	P<0.001
Eating egg yolks more than twice a week is not recommended because it increases cholesterol.	P<0.001
Energy drinks, chocolate, sugary drinks, and fast foods aggravate stress.	P<0.001
Special diets for obesity or weight loss of particular body parts are ineffective.	P<0.001
Consumption of animal oil is harmful and builds up in the arteries over time.	P<0.001

\* $\alpha=0.05$  was considered as the significance level

## Discussion

Social networking is widely used today and can promote positive behavioral change (27). Obviously, students will not be an exception to this issue, so social networks have also affected their experiences (28). In addition, social media can promote positive behavior change and health outcomes (29, 30). It should be mentioned that healthy nutrition is vital among students, and achieving healthy food requires acquiring nutritional knowledge (31). Students are influential and play a critical role in future management and development of the society. Therefore, paying attention to their physical and mental health is necessary because academic environment can play an important role in promoting

community culture(32). Also, friends significantly impact each other, especially in educational settings. In addition to friends, cyberspace, and social networking have also played an essential role in students' attitudes, beliefs, and behaviors (33).

The present study revealed that Telegram was the most popular social network among the participants because Telegram is an easy-access platform and includes some valuable features compared to other social networks (34). In contrast, Pumpek et al. have stated that 91% of students in the midwest of the U.S use Facebook. (35). Although the role of family in acquiring knowledge and nutritional information cannot be ignored, the results have shown that the participants got the most of their

nutritional information from social networking. Some studies confirm these results. For example, the study published by Golizadeh et al. in 2016 indicated that family and culture could affect a person's eating habits (36). Also, Christakis et al. reported that social networking could affect the spread of obesity (19). In addition, Kim et al. found a significant relationship between using media and self-esteem, body image, body dissatisfaction, and eating disorders.

Studies showed that people exposed to social media had more nutritional disorders (22). Also, Njereu et al. showed that overweight people were more likely to join a social group or channel with overweight members (29). However, the findings indicated that participants' attitudes and eating habits did not change following social networking, and most participants chose the neutral option, meaning they believed they had not experienced any change in eating habits. Nevertheless, some studies showed that eating unhealthy foods has been common among students (37, 38). In addition, students were influenced by their roommates' eating habits in dormitories and experienced weight changes (39).

Moreover, the results showed that joining social networking could have some effects on changing the participants' nutritional beliefs. Similarly, a study conducted by Harmon et al. found that behavioral effects were more significant in the channels whose members were similar in age, education, and family (40). Although Telegram was very popular among the participants, some students were not members of any channel, page, or nutrition group. This issue could influence the outcome and explain why most participants did not change their beliefs. In addition, according to the results, it is suggested that students should be encouraged to join groups or channels that recommend and promote healthy diets based on scientific methods.

### Limitation

The present study faced several limitations. First, it was impossible to survey more students to achieve better results due to a lack of resources and access problems. Second, the study was a descriptive one. Therefore, an interventional study to confirm the results is recommended. Third, the participants included dormitory students who could not simply change their diet because their diet was planned based on the university restaurants' menu. This issue may have affected the results.

### Conclusion

This study was conducted to investigate the role of

social networking on students' nutritional status and attitudes. Although the effect of social networking on users is a fact, and most of the participants used social networks, especially Telegram, and were members of several channels, the role of social networking in students' nutritional status was not confirmed. However, social networking could change the students' nutritional beliefs. The results of this study can be valuable due to the extent and diversity of social networking and its undeniable impact on the attitude and behavior of individuals, especially students. It is suggested that more studies should be conducted to determine whether social networking affects changing eating habits and nutritional status and, for this reason, whether social networking should be limited.

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### Authors' Contribution

A.H. conceived of the idea. A.H. and M.B. developed and designed the study. M.A., N.L., and M.R. collected data. Z.A., H.M., and A.H. analyzed the data. M.B., M.A., N.L., and M.R. verified the results. All authors discussed the results. Z.A. and H.M. wrote the first draft with contributions from A.H. All authors reviewed and commented on the manuscript, and all are responsible for the content of the manuscript.

### Data Availability

The datasets used and/or analysed during the current study available from the corresponding author on reasonable request.

**Conflict of Interest:** None declared.

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