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Association of Body Mass Index (BMI) with Social Network Activity of Female Students at Ahvaz Jundishapur University of Medical Sciences, Iran

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ABSTRACT

Introduction: Today, using of social networks has rapidity grown in the world. Social networks influence the various aspects of human life. In this study, relation of social networks and the Body Mass Index (BMI) was assessed among the young girl students.
Methods: This analytical cross-sectional study was done on girls young students of Medical Sciences in 2017. Samples were selected randomly. Sample size was determined 250 cases by the Morgan sampling method. Data was collected through a questionnaire to find the addiction to social networks and the BMI. Data was analyzed by SPSS software, version 16. Pearson correlation coefficient method was estimated to evaluate the relation of addiction to using social networks and BMI.
Finding: There was a weak relation between using the social networks and there is no significant relation between social networking and BMI in this study.
Conclusion: Most people of sample had normal BMI with the regular activity in the social networks.

Key words: Social networks, Body mass index, Health data record applications

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INTRODUCTION

Today, communities are turning into networks of people due to the use of communication devices such as internet and social networking.

As the social networks have strong relations features, they have found many supporters among the youth. Social networks consist of groups individuals linked to each other by specific dependencies such as goals, material and religious issues [1]. Research to assess the impact of these networks on the various dimensions of physical and mental health of individuals is highly grown in recent years [2]. Using the social networks among the communities showed that almost all people are members of social networks which affected many aspects of human life [3]. Social networks have different positive and negative effects. One of the negative effects is the influence on the identity of individuals, especially young people [4].

Today, nutrition problems are of the world challenges known as a dilemma, referred to as obesity or unusual weight loss [5]. Weight disorders caused with bad diet habit increase the incidence of physical and mental illness which endanger the health of the people in communities [6].

To assess the status of people's weight disorders, in the international level, Body Mass Index (BMI) is used. BMI was first developed by the Belgian scientist Adolf Kutel in the years 1830 to 1850. This indicator is more acceptable for those who are white-Caucasian such as Iranians and Europeans [7]. BMI which is also called Quetelt is used to determine weight disorders [8,9].

METHODS

This study is an analytical cross-sectional study. The research population consisted of all female students who were studying at Jundishapur University of Medical Sciences in Ahvaz in 2017. The population of the study included 3000 students.

The sample size was determined 250 subjects of female students according to Morgan sample size method. Information about the social networks dependency was collected using a questionnaire. The questionnaire was based on the "Yang" study [10]. The questionnaire included two parts. The first part was demographic information such as height, weight, field of study and age. The second part was nineteen questions to determine the dependency of people to social networks

such as Telegram, Instagram, Facebook, Twitter and Internet. The weight of subjects was measured by a Digital Balance with the brand of "Microlife". The sample heights in Centimeter were measured without shoes by a strip meter. The reliability of the questionnaire was confirmed with Cronbach's alpha of 0.90 [11]. The body mass index was determined according to the height and weight of students. Collected data was analyzed by SPSS software version 16. To analyze the gathered data, each question was converted to the Likert scale with the value from 1 to 5. Descriptive statistical method based on the Pearson correlation coefficient was used to find the results of the study (Table 1).

Table 1: Demographic information of samples

Education Level	Number of Persons	Age Level	Average Height	Average Weight	Average BMI
Undergraduate	166	18-23	172.29	58.13	23.94
Undergraduate	9	24-28	161.44	57.55	22.33
Postgraduate	70	18-23	161.41	59.4	22.27
Postgraduate	5	24-28	163.3	58.6	21.2

Table 1 shows the demographic information of the samples in this study. According to Table 1, the bachelor students consisted of 175 people including 166 students in the range of 18 to 23 years and nine of 24 to 28 years. The first age level student had the average height of 172.29 with the average weight of 58.13. Average of BMI was 23.94 for the undergraduate samples. Nine of the undergraduate samples were in the range of 24 to 28 years with the average BMI of 22.33. Moreover, professional Ph.D. students included 75 students. Seventy of them had the ages of 18 to 23. The average height was 161.41 and the average age weight was 59.4. Average of BMI of the samples was 22.27. Five of them were between the ages of 24 to 28 years. Their average height was 163.3 with the average weight of 58.6. The average BMI of the PhD students in this level was 21.2. Figure 1 shows the average weights to average heights of samples in this study. According to the results shown in Table 1 and Figure 1 the achieved BMI of the medical students were in the normal range as the average BMI for the samples were more than the value of 18 and less than 24.9.

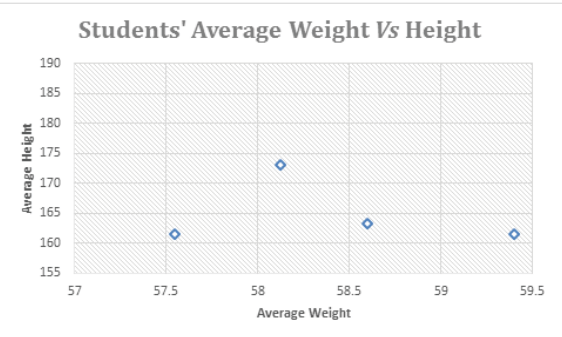

Figure 1: Medical Students' average weight to average height

A research hypothesis of this study is as follows:

There is a relationship between social networking and body mass index.

FINDINGS

Table 2 shows the average scores for each question of questionnaire in this study. According to Table 2, 18th question with an average value of 2.80 was the highest score in which a question about the hidden time for activity in the social networks was asked. Also, 13th question with average value of 1.60 which related to having angry expression with disturbance by others when the social networks are used.

Table 2: Average score for questions to assess the addiction to ocial networks

Questions	Average score for the samples based on the Likert values
Question1	2.66
Question2	2.22
Question3	1.79
Question4	1.67
Question5	2.24
Question6	2.06
Question7	2.58
Question8	2.26
Question9	1.75
Question10	2.27
Question11	2.3
Question12	2.5
Question13	1.6
Question14	2.5
Question15	2.21
Question16	2.17
Question17	2.36
Question18	2.8
Question19	1.9
Average score	2.2

Table 3 shows the Pearson correlation coefficient analysis on the sample data. According to Table 3, Pearson correlation coefficient is the positive value of 0.043. Therefore, there is a weak direct relationship between using the social network and BMI. However, due to the level of significance level 0.502, which is more than the normal value, the research hypothesis is rejected. As a result, the relationship between using the social networks and BMI was not approved according to the gathered data.

Table 3: Pearson correlation coefficient analysis

Statistical indicators / Main variables	Pearson correlation coefficient	Meaningful level
BMI and social networking	0.043	0.502

DISCUSSION

In this study, the relationship between social networking and BMI was studied. According to the results, BMI was normal in the most cases. However, there were cases of overweight and weight loss among them. There was no statistically significant relationship between using the social networks and BMI (Sig=0.502). The achieved results of this study are confirmed with several studies while some of them rejected the results of the study.

The results showed that most of students used the social networks in a normal range; while, they had the BMI in the normal range in two categories of the samples. An analytical study were performed by Vafaie et al. titled "Relation of Anxiety and depression levels and its correlation with BMI in nursing students" on 300 nursing students with an average age of 22 and average height of 162 cm and average BMI of 22.34 [11]. They showed that most nursing students did not have anxiety, stress level and depression. Body mass index was normal for the most cases. There was also no meaningful relationship between mood disorders and BMI [11]. Moreover, Lashgarara et al. in a study titled "Internet Addiction and General Health in Dormitory Students at Tehran University of Medical Sciences" found that there was no significant difference in physical health such as BMI for internet addicted users in comparison with normal users [12]. However, the relation of BMI and internet addicted users was approved in a study of Pirzadeh et al. [13]. The results were confirmed in a study of Canan et al. They showed that there is a significance relationship between addiction to the internet and BMI [14].

Some of the studies on the effects of the social networks on the health showed that social networks can be used as an intervention method to enhance the human health. Shaya et al. showed that social networks intervention has the positive effects on the patients with diabetes type 2 to reduce the blood glucose [15]. On the other hand, some of the studies illustrated the effect of cyber networks in terms of psychological aspects. Memar in an analytic study showed that, virtual social networking has created a sort of identity crisis among a wide range of young people. The identity crisis of individual contexts has caused identity heterogeneity and has affected the social interaction of individuals [4].

Kermani et al. in a study entitled "The Study of the Impact of the Use of Social Networking Sites on the Ethnic Identity of Students in Tehran's Universities" showed that there was a positive correlation between the different dimensions of ethnic identity and the rate of use of social networking sites [16]. Masounia in a study titled "Cyberspace Addiction and the Risk of Sleep Disorders in Adolescents" found that there is a significant difference between two groups of normal users and internet addicts users in term of bad sleep. In fact, extreme use of the internet is a serious risk factor for the quality of sleep in young people [17].

Selahian et al. found that addiction and dependency to social networks and the internet are linked to the level of obsessive-compulsive and curious people. According to this study, social networks caused the negative affect on the users' performance [18].

CONCLUSION

Relation of using social networks among the Medical students and BMI was evaluated in this study. The results showed that there was not enough evidence to verify the research hypothesis. Strong relation between the social networks and BMI was not seen among the medical students in this study. However, the negative effects of social networks on the human health were illustrated in several studies. Social networks can be also used as an educational tool to improve the health and medical care. According to the findings, it is suggested that the health data analysis system should be developed as the applications, which record and monitor the user's health with the social networks activities in the long period of time. Educational information to present the adverse effects of the social networks by the applications is also recommended to promote awareness of the users such as university students.

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