

Health Promoting Behaviors among University Students: A Case-Sectional Study of Kermanshah University of Medical Sciences

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Abstract

Background

The health promoting behaviors determine the health status in the present and future. The medical students, as developers and providers of professional care, play a key role in the promotion of health. Hence, determining the health promoting behaviors among them is of the essence. The present study aimed to investigate the health promoting behaviors among the students at Kermanshah University of Medical Sciences, Kermanshah city, Iran.

Materials and Methods

This descriptive, analytical and cross-sectional study was conducted in 2014-2015 on a sample of 380 students majoring at Kermanshah University of Medical Sciences. To collect the required data, an instrument comprising the demographic questions and health-promoting lifestyle profile II questionnaire by Walker et al. (1987) was used. Data were analyzed using The IBM SPSS Statistics Software version 21.0.

Results

The mean age of students were 20.07 ± 2.04 years old. In addition, of the total of 351 subjects of the present study, 134 students (39%) were male and 217 (61%) were female, and in terms of marital status, 330 of the participants (94%) were single. Further, the majority of students were studying doing BSc degrees (230 students or 65.5%), and 52.7% were residing in dormitories. The status of health promoting behaviors was average. In addition, the highest and lowest scores related to the spiritual growth (3.24 ± 0.59) and physical activities (2.25 ± 0.641), respectively.

Conclusion

The results of the present study revealed that the status of the students' health promoting behaviors at Kermanshah University of Medical Sciences was average. Therefore, more accurate planning is vital to improve the status of the students' health promoting behaviors.

Key Words: Health-promoting Behaviors, Iranian Students, Physical activities.

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1- INTRODUCTION

The health promoting behaviors, as one of the major criteria that determines health, are known as one important demographic factor in the avoidance of many illnesses, and health promotion and disease prevention are directly associated with these behaviors (1). Some of the most important health promotion behaviors involve nutrition, regular exercise, avoidance of destructive behaviors and drugs, protection against accidents, timely detection of disease symptoms from the physical aspect, controlling emotions, feelings and thoughts and coping with stress and mental problems, and adjusting the interpersonal relations from the social aspect (2). One's health is affected by one's lifestyle, and health promoting behaviors and healthy lifestyles offer major guidelines to facilitate and maintain one's health (3, 4).

Today, research indicates that many chronic diseases ensue from lifestyles and human behaviors (5). To adopt health promoting behaviors is one of the best ways whereby one can control and maintain one's health (6). In this regard, one of the critical periods in one's lifespan is when he/she is a university student, known as a dynamic and transitional period (7). Admission to universities is accompanied by certain emotions that can affect one's mental and physical health (8).

In this course, the youth gradually takes the responsibility for one's health in line with one's physical, psychological, social and sexual developments. This transitional period is the best time to establish healthy behaviors (9). Therefore, students should be aware of healthy behaviors in order to apply them to improve one's health and quality of life (1). Given the significance of adopting health promotion behaviors, numerous studies have examined the rate of observing these behaviors by university students. For instance, the results of a study conducted on students at Shahid

Beheshti University in Iran revealed that highest and lowest scores of health promotion were assigned to spiritual growth/self-actualization and physical activity, respectively (10). Similarly, in a study performed on the students at Alborz University of Medical Sciences in Iran, the results demonstrated that spiritual growth/self-actualization and physical activity had the highest and lowest scores of health promotion, respectively (11). Also, in a study done on nursing students in Tehran, Iran, the results indicated that the highest and lowest mean scores belonged to spiritual growth/self-actualization and physical activity, and the mean of health promoting behaviors was higher among the married nurses than that among the single ones (12).

Von Bothmer and Fridlund (13) and Diez and Perez-Fortis (14) showed that a large number of university students adopted high-risk behaviors such as smoking, drinking alcohol, tobacco use, physical inactivity, and unhealthy diets. In a study conducted on health promoting and high-risk behaviors among the male students at the University of Alabama at Birmingham. Rozmus et al. (2005) concluded that 32% of students were overweight, 25% drank and drove, 12% smoked, 27% were in the habit of smoking marijuana (15).

Mooney et al. (2011) reported a higher prevalence of smoking, drinking and un-prescribed drug use among the nursing students compared to graduates of the same field of study in a hospital based in Ireland (16). The results of a study performed by Peker and Bermek (2011) on the Turkish university students revealed that a great number of them adopted high-risk behaviors such as drinking alcohol, tobacco use, physical inactivity, and unhealthy diets (17). The results of studies performed by Smith (2007) and Keller et al. (2008) indicated that many university students were prone

to risky behaviors, including smoking, drinking, lack of physical activity, unhealthy diets, inadequate sleep and rest, that affect their present and future health status (18, 19).

A substantial portion of the Iranian young population comprises university students. Also, given that the health of societies hinges upon the behaviors adopted by this group and the fact that they act as agents who communicate the health-related messages to others in their jobs-to-be and guide their peers to adopt healthy lifestyles, they are of paramount importance. Hence, whatever lifestyle is chosen by them has special significance.

Due to lack of awareness about the status of health promoting behaviors among the students at Kermanshah University of Medical Science, the present study aimed to investigate this issue with the aim of providing the health authorities with enough basis to present appropriate solutions for university students who adopt inappropriate lifestyles.

2- MATERIALS AND METHODS

2-1. Study design and population

This descriptive, analytical and cross-sectional study aimed to investigate the health promoting behaviors among the students at Kermanshah University of Medical Sciences, Kermanshah city, Iran, in 2014-2015.

2-2. Methods

The statistical population included all students of Kermanshah University of Medical Sciences in the academic year 2014-2015. The sample size was calculated based on previous studies (Khazaei et al., 2015) and Cochran's formula ($n=351$). Further, the stratified random sampling method was employed.

2-3. Measuring tools: validity and reliability

To collect the required data, a two-part questionnaire was used. The first part discussed with the personal information and comprised 11 questions on gender, age, marital status, level of study, major, socio-economic status, place of residence, smoking, specified time to rest, regular sleep, total hours of sleep per 24 hours, and disease background. The second part was the Health-promoting Lifestyle Profile II by Walker et al. (20), which comprised 52 questions with Likert scale (1=Never, 2= Sometimes, 3= Often, and 4= Always). This instrument measured the health promoting lifestyles in six dimensions as follows: health accountability (nine questions), physical activity/exercise (eight questions), nutrition (nine questions), interpersonal relations (nine questions), stress management (eight questions), and self-actualization/ spiritual growth (nine questions).

The validity of this instrument was assessed through the exploratory factor analysis (EFA) by Walker et al. (21). Additionally, its reliability was assessed through Cronbach's alpha as follows: health accountability (0.86), physical activity (0.85), nutrition (0.80), spiritual growth (0.80), interpersonal relations (0.87), and stress management (0.79). Also, the Cronbach's alpha for the entire questionnaire was 0.94 (21).

The validity and reliability of the Persian version of the Health Promoting Lifestyle Profile II questionnaire were assessed and confirmed by Mohammadi Zeidi et al. (2011), in which the Cronbach's alpha was 0.82 for the entire questionnaire (22). In the present study, the validity and reliability of the instrument were retested, and the content validity was examined by a panel of 12 experts in health promoting behaviors whose corrective comments were included in the questionnaire. Furthermore, the Cronbach's alpha was used to determine the reliability ($\alpha=0.81$), and the total score of the questionnaire was

between 52 and 208. Further, a separate score was calculated for each dimension.

2-4. Intervention

To commence the study, the required permits were obtained from the Vice Chancellery for the Department of Research and Technology at Kermanshah University of Medical Sciences. Then, the questionnaires were distributed among the target sample. To this end, the objectives of the present study were explained to the target subjects, and they were assured that their information would be kept confidential. Additionally, their informed consent was obtained, too.

2.5-Ethical Consideration

Participation in the scheme was optional and it was not required to write their names. This study was approved by the Ethics Committee of Kermanshah University of Medical Sciences, with ID code No. 94423.

2-6. Inclusion and exclusion criteria

In addition, agreement to participate in the research was the inclusion criterion, whereas incomplete questionnaires were excluded from the study.

2-7. Data Analyses

For data analysis, the descriptive (frequency distribution, mean, and standard deviation) and inferential statistics (independent t-test and one-way ANOVA) were employed in the SPSS Statistics Software Version 21.0. To compare the scores of health promoting behaviors, the independent t-test and one-way ANOVA were employed. The former was used for the two-faceted qualitative variables, including gender, age, marital status, specified time to rest, and disease background. The latter was employed for the multi-faceted qualitative variables, including level of study, major, socio-economic status, place of residence, smoking, regular sleep, and the total hours

of sleep per 24 hours. Moreover, the IBM SPSS Statistics Software Version 21.0 was used for the statistical data analysis, and the significance level was set at 0.05 in all tests.

3- RESULTS

In our study, the response rate was 100%. Of the total of 351 subjects of the present study, 134 students (39%) were male and 217 (61%) were female. The average age of the subjects was 20.07 ± 2.04 years old, and in terms of marital status, 330 of the participants (94%) were single. In addition, the majority of students were doing BSc degrees (230 students or 65.5%). Also, the socio-economic status of the majority of students (241 students or 68.7%) was average.

In terms of the place of residence, 185 students (52.7%) were living in dormitories, 157 students (41.1%) were living with their families, and nine students (6.2%) were living with their friends. The majority of students (341 students or 97.15%) did not report anything about smoking. Additionally, 276 students (78%) had specified times to rest, and 182 students (51.85%) had regular sleep. Further, the majority of students (320 students or 91.17%) got a total of 6-9 hours of sleep per 24 hours (**Table.1**).

The results of the present study revealed that the mean and standard deviation of the total health promoting behaviors were 2.71 ± 0.42 out of a score of four. The results also indicated that the status of the health promoting behaviors among 180 students (51.28%) was relatively good.

The highest level of health promoting behaviors related to self-actualization/spiritual growth (3.24 ± 0.59), health accountability (2.8 ± 0.544), stress management (2.8 ± 0.617), nutrition (2.61 ± 0.517), interpersonal relations (2.58 ± 0.571), and physical activity/exercise (2.25 ± 0.641), respectively

(Table.2). Additionally, the results demonstrated that there was a statistically significant difference between the mean score of health promoting behaviors and those of gender, marital status, and place of residence ($P<0.001$). The results of the

present study demonstrated that the lowest score belonged to the physical activities. The mean score of health promoting behaviors was higher among female respondents than that among the male ones ($P<0.05$).

Table-1: The Demographic Characteristics of the Participants

Variables	Classification	Frequency (%)
Gender	Male	134(38.2)
	Female	217(61.8)
Age	<20 years	259(73.8)
	>21 years	92(26.2)
Marital status	Single	330(94)
	Married	21(6)
Education	BSc	230(65.5)
	MSc	24(6.8)
	PhD	97(27.6)
Major	Medicine	119(33.9)
	Paramedical	125(35.6)
	Nursing and Midwifery	90(25.6)
	Public Health	17(4.8)
Socio-economic Status	High	72(20.5)
	Average	241(68.7)
	Low	38(10.8)
Place of Residence	Dormitory	185(52.7)
	Living with Family	157(44.7)
	Living with Friends	9(2.6)
Smoking	Yes	4(1.1)
	No	341(97.2)
	Sometimes	6(1.7)
Specified Time to Rest	Yes	276(78.6)
	No	75(21.4)
Regular Sleep	Yes	182(51.9)
	Not Quite	149(42.5)
	No	20(5.7)
Total Hours of Sleep per 24 Hours	Between six and nine hours	320(91.2)
	Less than six hours	26(7.4)
	More than nine hours	5(1.4)
Disease Background	Yes	9(2.6)
	No	342(97.4)

Table-2: The Frequency, Mean, Standard Deviation, and Minimum and Maximum scores of the Health Promoting Behaviors of Respondents

Health Promoting Behavior	Frequency	Mean	Standard Deviation	Minimum	Maximum
Self-actualization/ Spiritual Growth	351	3.24	0.59	1.33	4
Health Accountability	351	2.8	0.54	1.22	4
Stress Management	351	2.8	0.61	1	4
Nutrition	351	2.61	0.51	1.56	4
Interpersonal Relations	351	2.58	0.57	1.11	4
Physical Activity	351	2.25	0.64	1.13	4
Health Promoting Behaviors	351	2.71	0.42	1.74	3.66

4- DISCUSSION

The present study aimed to investigate the health promoting behaviors among students at Kermanshah University of Medical Sciences in 2015. The results of the present study revealed that the mean and standard deviation of the total health promoting behaviors were 2.71 ± 0.42 , indicating that it was average. In a study conducted by Wei et al. (2012) on the Japanese university students, the results showed that the mean and standard deviation of health promoting behaviors were 2.50 ± 0.29 (23).

In another study performed by Kim et al. (24) on the Chinese university students, it was revealed that the mean score of health promoting behaviors was 2.50, which was lower than that in the present study. In addition, the results of a study carried out by Abeer et al. (25) on the students at Jordan University demonstrated that the mean score of health promoting behaviors was 127.87, which was inconsistent with the results of the present study. The mean and standard deviation of health promoting behaviors among the Thai nursing students were 2.99 ± 0.33 (26). McElligott et al. (24) showed that the mean and standard deviation of health promoting behaviors among the American nursing students were 2.60 ± 0.41 . Also, Khazaie et al. (2015) concluded that the mean and standard deviation of health promoting behaviors were 113.08 ± 25 . The highest and lowest scores belonged to spiritual growth and health accountability, respectively (27).

Of the six dimensions of health promoting behaviors, the spiritual growth had the highest mean score, being consistent with the results of studies conducted by Tol et al. (28), Al-Kandari et al. (29), Abed Allah et al. (30), Alkhalwaldeh (17, 31), and Peker and Bermek (2011) (17, 31). It can be remarked that these results may be due to the prevailing culture and religious beliefs in the Iranian society, so that when

one, especially the youth, finds oneself in a certain predicament, he/she asks God for assistance as the last resort and is relieved mentally through performing some religious rituals (11). The results of the present study also indicated that the score of health accountability was relatively good, which was concurrent with the results of studies conducted by Raiyat et al. (32), Peltzer et al. (33), Pirincci et al. (5), Lee and Loke (2005) (34), and Al-Kandari et al. (2008) (29).

In addition, the results of the present study demonstrated that the lowest score belonged to the physical activities, which was consistent with the results of studies performed by Lee and Loke (34), and Al-Kandari et al. (29). Similarly, Adderley-Kelly and Green (35) showed that 51% of the respondents received low scores in the physical activities. Additionally, the mean score of health promoting behaviors was higher among female respondents than that among the male ones, which was concurrent with the results of studies carried out by Díez and Pérez-Fortis (14) on the Mexican students, Stock et al. (36) on the German students, and Von Bothmer and Fridlund (13) on the Swedish students. However, this result was inconsistent with the results of a study performed by Hui (37) in which no significant relationship was found between the Chinese male and female nursing students in this regard.

From the viewpoint of the researchers of the present study, the high rate of health promoting behaviors among women may be related to their care about health and fitness status, which is not a high priority for men. Further, the results of the independent t-test showed that the mean score of health promoting behaviors was higher among the single students than that among the married ones, which was inconsistent with the results of studies performed by Norouzinia et al. (11, 38), and Baghersad et al. (11, 38). It seems that single students focus more attention on

various issues because they are not involved in the matrimonial responsibilities and roles, and this is the reason why they are more interested in health promoting behaviors (24). The university students who lived in dormitories had the lowest mean score in terms of the health promoting behaviors, and there was a statistically significant difference between the groups in this regard. This result was concurrent with the results of studies performed by Norouzinia et al. (11), and Baghersad et al. (38).

Similarly, Can et al. (2) concluded that the place of residence of university students could affect each of the six dimensions of health promoting behaviors. Moreover, from the point of view of the researchers of the present study, the low mean score of health promoting behaviors among the university students living in dormitories was due to many factors, including the inadequate attention paid by the officials of the Food Service Association to the students' tastes in food, lack of sufficient time to prepare their favorite foods, poor quality foods and so on.

4-1. Limitations of the study

The present study had some limitations. Firstly, the data were collected through a self-reporting method, possibly affecting the accuracy of the results. Secondly, because the sample comprised the students majoring in some faculties and not all of them in Kermanshah University of Medical Sciences, the results cannot be generalized to students in other Medical Sciences Schools. Finally, it is recommended that further studies be conducted in this respect to draw comparisons towards reaching a consensus on this matter.

5- CONCLUSION

In general, the results of the present study revealed that the status of health promoting behaviors was average among

the students at Kermanshah University of Medical Sciences. The necessity of the implementation of health education and promotion programs with an emphasis on these behaviors is recommended.

6- CONFLICT OF INTEREST: None.

7- ACKNOWLEDGMENTS

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