



Evaluation of Lifestyle Health Promotion of Dormitory Medical Students Regarding Comprehensive Aspects

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Abstract

Objective: Lifestyle improvement has a key role in empowering people and facilitating their duties. Most of the students who live in the dormitories, are apparently not locals and their lifestyle improvement is even more essential to increase their efficiency and productivity. The aim of this study is to assess health-promoting lifestyle of medical sciences students who live in dormitory with respect to different aspects such as nutritional status, stress management, physical activity, health responsibility, social support and perception of life. Moreover the results are provided separately for male and female students and compared with each other.

Materials and Methods: In this paper, an analytical descriptive study was conducted with 220 students who live in dormitory and random stratified sampling was used. Data collection was based on a standard health-promoting lifestyle questionnaire. The minimum lifestyle score was 52 and the maximum score was 208. The validity of the Persian version of health-promoting lifestyle has been done by Mohammadi Zeidi et al. Cronbach alpha of 0.85 were obtained for all of the questionnaires and the data were analyzed using IBM SPSS Statistics®.

Results: Average scores of the male and female students' lifestyle were moderate (122.63 ± 25.18). The lowest score was related to the physical activity of female students (16.71 ± 4.47) and the highest score was for the social support between male students (23.71 ± 4.09). Independent *t* test showed that the difference between the means of nutrition and health responsibility for male and female students were significant ($P=0.05$). Pearson correlation coefficient showed that there is a relationship between all aspects of lifestyle ($P=0.01$). It is investigated that there is relationship between gender and physical activity by doing a regression.

Conclusion: Considering the fact that the students had an average score of health promoting lifestyle, paying attention to the health education and the behaviors related to the health promotion of this population is more essential and cost-effective.

Keywords: Promoting healthy lifestyle, dormitory students, Nutrition, Stress, Physical, Health, Social Support, Perception of Life.

Introduction

Lifestyle refers to people's usual activities which have impact on their health (1,2). People adopt a lifestyle to improve their health and prevent diseases and perform activities which form lifestyle. These activities include diet, physical activity, weight control, smoking and alcohol prevention, etc (3).

The lifestyle is closely connected to the health. It means that if a person follows a healthy lifestyle, it will improve the person's health promotion. The aim of enhancing people's lifestyle is to empower the people in order to modify their lifestyle and have more control over their health, and finally enjoy their lives (4).

Health promoting lifestyle consists of six dimensions including *spiritual growth* and belief in superior power of God that is for maintaining mental health, *being responsible* for maintaining and promoting the individual

and social health, *maintaining interpersonal relationships* to enhance the social aspect of health, *stress management* to prevent physical and mental diseases, and *physical activity* and finally having a healthy diet in order to maintain good health in life (5). Health problems such as obesity, cardiovascular disease, hypertension, diabetes, and cancer are closely linked to lifestyle (6).

Two objectives are considered for promoting public health and preventing disease. The first one is promotion of health-inducing behaviors and the second one is creation of a healthy social and physical environment in order to improve the people and society health (7).

A large number of youth population in Iran are students. Due to their age and social status, this group can be a pattern for others. Hence, their choices for having a healthy or unhealthy lifestyle not only have impact on their own personal life, but also affect the lifestyle of other

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society groups.

Therefore, promotion of healthy lifestyle in this group is very important, because they can promote health-enhancing issues associated to themselves, family, and community (8).

Many students live in the dormitories and most of them are not locals. Living in a dorm can entirely affect different aspects the students' lives. Dormitory life has an important role in choosing the health-promoting lifestyle by the students (9) because their lifestyle improvement is even more essential to increase their efficiency and productivity.

Studies in this area have shown that the people between 15 to 24 years old are more prone to risky behaviors such as smoking, alcohol, unsafe sexual behavior, poor eating habits, etc. These risky behaviors threaten the health of this sensitive group and may result in an increased morbidity and mortality in this group (10,11).

Living conditions in a dormitory may put a person at risk for unhealthy behaviors and cause health problems such as depression. The conditions include living far from hometown, lack of appropriate welfare facilities and adequate sanitation, living with the people from different cultures, and high costs (12).

Students are in the age group of young adults and the young people make up the majority of population in underdeveloped countries such as Iran. The population of the students have increased considerably in the recent years. Tendency of the young people to do risky behaviors such as smoking, inactivity, unhealthy diet, and lack of health responsibility is high (13,14). Therefore, paying more attention to health education and health promoting behaviors between the young people, especially students, is more cost-effective.

A few studies have been done in Iran to address the health-promoting lifestyle in dormitory students and the studies suggest that the lifestyle of dormitory students is not in a good condition (15,16).

The fact that there is no study related to the health-promoting lifestyle among male and female students, motivated us to investigate the health-promoting lifestyle between male and female dormitory students and design a training program for these students. As a case study, dormitory students at Ardebil University of Medical Sciences are considered.

Materials and Methods

This analytical descriptive study was conducted in 2015 in Ardebil, and 220 students living in the dormitories of Ardebil University of Medical Sciences are participated in this study including 110 boys and 110 girls. The sample size was calculated using the formula of confidence interval for the ratio as follows. Assuming a ratio of about 30%, 95% CI and an error of 6%, the sample size was calculated to be 200 persons and to compensate for the possible loss, a total of 220 samples were finally chosen. The stratified random sampling method was used in this study and participation was voluntary. Data were collected by the

health-promoting lifestyle questionnaire which contains 6 domains (nutrition, physical activity, health responsibility, stress management, social support, and spiritual growth). Dimensions of nutrition, health responsibility, stress management, and social support included 9 questions and dimensions of physical activity, social support, and spiritual growth included 8 questions, each one scored according to the 4-point Likert scale. The lifestyle score ranged from a minimum of 52 to a maximum of 208 and the score of each question ranged from 1 to 4. The validity of the Persian version of health-promoting lifestyle has been done by Mohammadi Zeidi et al, who reported Cronbach alpha values of 0.64 for spiritual growth, 0.86 for health responsibility, 0.75 for interpersonal communication, 0.91 for stress management, 0.79 for physical activity, 0.81 for nutrition, and 0.82 for the entire questionnaire (17). Its reliability was also calculated as 0.85 through Cronbach alpha.

The data were analyzed through descriptive and analytical tests such as independent *t*-test, Pearson correlation coefficient, simple or non-linear regression, and chi-square. The Kolmogorov-Smirnov test was used to check the normality of the data. The data were finally analyzed with IBM SPSS Statistics® software and the results were presented in the following section.

Results

As it is mentioned before, a total of 220 students who live in the dormitory of Ardebil University of Medical Sciences participated were selected for this study; 110 of them were male and 109 were female, and 1 person did not specify his/her gender. The Kolmogorov-Smirnov test showed that the data had a normal distribution, therefore, the parametric tests could be used ($P=0.2$).

According to Table 1, the mean of lifestyle score of male and female students was medium. The lowest scores were related to the physical activity in male students and then the female students. The highest scores were related to the social support in male students and then the female students. Bar graph of lifestyle scores of male and female students showed that the health-promoting lifestyle was medium. Bar graph of the mean scores for the 6 dimensions of lifestyle in male and female students also showed that health-promoting lifestyle scores were medium. In this study, scores of health-promoting lifestyle dimensions were categorized into 3 levels of low, medium, and high; their percentage was calculated and the results are presented in Table 2.

According to Table 3, most of the scores of lifestyle dimensions are distributed in the medium level and the lowest percentage of the scores are in the high level.

The independent *t*-test was used to compare the differences between the average of the general scores of lifestyle and its dimensions in male and female students.

The results showed that the difference between the mean scores of nutrition ($P=0.006$) and health responsibility ($P=0.01$) between male and female students was significant ($P=0.05$). Conversely, the difference between the mean

Table 1. Mean Scores of Health-Promoting Lifestyle of College Students, Male and Female Students

| Lifestyle Dimensions | The Average Score for All Students | The Average Score for Male Students | The Average Score for Female Students |
|-----------------------|------------------------------------|-------------------------------------|---------------------------------------|
| Nutrition | 19.84±4.9 | 19.07±4.34 | 20.69±3.66 |
| Physical activity | 17.25±4.55 | 17.76±4.54 | 16.71±4.47 |
| Health responsibility | 20.57±4.88 | 19.76±4.92 | 21.54±4.71 |
| Stress management | 21.02±4.02 | 20.85±4.35 | 21.23±3.63 |
| Social support | 23.34±3.96 | 23.71±4.09 | 22.93±3.80 |
| Perception of life | 20.91±4.47 | 21.05±4.84 | 20.77±4.08 |
| Lifestyle in general | 122.63±18.25 | 122.45±19.79 | 123.06±16.36 |

Table 2. Percentage Scores of Lifestyle and Lifestyle in General

| Score | Rank | Nutrition | Physical Activity | Health Responsibility | Health Responsibility | Perception of Life | Social Support | Stress Management |
|-------|---------|-----------|-------------------|-----------------------|-----------------------|--------------------|----------------|-------------------|
| Total | Weak | 3.27 | 4.31 | 8.21 | 4.21 | 6.8 | 10 | 8.6 |
| | Average | 8.56 | 2.48 | 6.53 | 4.61 | 1.49 | 5.74 | 7.67 |
| | Good | 6.3 | 7.7 | 5.9 | 6.8 | 6.3 | - | 9.15 |
| Boy | Weak | 5.34 | 3.27 | 30 | 4.26 | 10 | 9.10 | 3.7 |
| | Average | 7.52 | 3.57 | 9.50 | 9.60 | 6.53 | 3.77 | 5.65 |
| | Good | 6.3 | 10 | 10 | 10 | 5.4 | - | 8.21 |
| Girl | Weak | 2.20 | 9.34 | 8.13 | 5.16 | 3.7 | 2.9 | 4.6 |
| | Average | 6.60 | 4.39 | 56 | 5.61 | 44 | 6.71 | 7.69 |
| | Good | 7.3 | 5.5 | 2.9 | 3.7 | 8.2 | - | 1.10 |

Table 3. Ranges, Means and Standard Deviations of Overall Health Promoting Behaviors and its Subscales

| Variable | Range Possible | Range Observed in This Study | Mean ± SD |
|-----------------------|----------------|------------------------------|--------------|
| Nutrition | 9-36 | 14-31 | 20.6±3.6 |
| Physical activity | 8-32 | 8-29 | 16.71±4.47 |
| Health responsibility | 9-36 | 14-24 | 21.54±4.71 |
| Stress management | 9-36 | 15-30 | 21.23±3.63 |
| Social support | 9-36 | 15-36 | 22.93±3.80 |
| Perception of life | 8-32 | 13-32 | 20.77±4.08 |
| Lifestyle in general | 52-208 | 90-163 | 123.06±16.36 |

scores of physical activity ($P=0.109$), stress management ($P=0.511$), social support ($P=0.171$), spiritual growth ($P=0.674$) and lifestyle in general ($P=0.848$) between boys and girls was not significant (Table 4).

Pearson correlation coefficient showed a correlation between the average scores of lifestyle dimensions and there was a statistically significant relationship between all dimensions of lifestyle in this study ($P=0.01$). There was a significant correlation between gender and physical activity ($P=0.05$), but there was no correlation between gender and other dimensions of lifestyle.

According to regression analysis, it was also found that there was no relationship between gender and nutrition ($P=0.49$), health responsibility ($P=0.63$), stress management ($P=0.79$), social support ($P=0.77$), spiritual growth ($P=0.74$), and lifestyle in general ($P=0.57$). However, there is a relationship between gender and physical activity ($P=0.04$).

Discussion

The average score of health-promoting lifestyle among

students was 122.63 out of 208 (123 in female students and 122.45 in male students).

According to the classification (low, medium, and high), 49.1% of the students had a medium health-promoting lifestyle. These findings are in line with the study of Maheri et al who investigated health-promoting lifestyle among students living in dormitory of Tehran University of Medical Sciences (18). They reported an average score of 119 for health-promoting lifestyle and according to their classification, 70.9% of students had a medium health-promoting lifestyle.

In a study by Jalili et al (19) on students of Kerman University of Medical Sciences, the overall score of health-promoting behaviors was reported as 134 and this also confirms the findings of our study

In a study by Mohammad-Alizadeh-Charandabi et al in 2012, the mean score of health-promoting lifestyle in male adolescents was 62 ± 3.49 (20).

In a study conducted in Hong Kong, the mean score of students' health promotion was 116 which was medium (21) and it also confirms the findings of our study.

Table 4. Compare the Difference Between the Mean Scores of Lifestyle and Size Between Male and Female Students

| Dimensions lifestyle | Sex | Mean \pm SD | P |
|-----------------------|------|--------------------|-------|
| Nutrition | Girl | 20.69 \pm 3.66 | 0.006 |
| | Boy | 19.07 \pm 4.34 | |
| Physical activity | Girl | 16.71 \pm 4.47 | 0.109 |
| | Boy | 17.76 \pm 4.54 | |
| Health responsibility | Girl | 21.54 \pm 4.71 | 0.01 |
| | Boy | 19.76 \pm 4.92 | |
| Stress management | Girl | 21.23 \pm 3.63 | 0.511 |
| | Boy | 20.85 \pm 4.35 | |
| Social support | Girl | 22.93 \pm 3.80 | 0.171 |
| | Boy | 23.71 \pm 4.09 | |
| Perception of life | Girl | 20.77 \pm 4.08 | 0.674 |
| | Boy | 21.05 \pm 4.84 | |
| Lifestyle in general | Girl | 123.06 \pm 16.36 | 0.848 |
| | Boy | 122.45 \pm 19.79 | |

The highest and the lowest scores belonged to social support and physical activity in male and female students, respectively. These results were consistent with the study conducted by Singh et al. They concluded that the highest score was in the spiritual growth group and the lowest score in the stress management, physical activity, and nutrition groups (22). Nola et al also concluded that nutritional habits and medical students' lifestyle in general are not favorable (23).

Motlagh et al concluded that the lowest score was in spiritual growth which does not confirm the findings of our study (15).

According to the present study, the score of social support was higher in boys than girls. This result was not confirmed in a study conducted in India. They concluded that spiritual growth score was higher in girls than boys (9).

These findings suggest that factors related to health and enjoyment of a healthy lifestyle, especially in students, play a great role in health promotion and activities related to it.

Students are a homogeneous population in the society who are relatively healthy. This reduces the bias caused by the effect of disease on health behaviors. It is expected that the students in the public academic environments tend to have sedentary behavior similar to educational environment at home. During the education period, dietary habits and individual behaviors change. This change can be transient or permanent depending on the type of interpersonal relationships. It seems that the medical students are less trained in terms of lifestyle skills and an educational program focusing on their lifestyle is necessary.

The results showed a significant difference between male and female students living in dormitories in the mean score of nutrition and health responsibility but not in other dimensions.

A study in Germany revealed that women in all age groups had a better conditions than men in terms of health behaviors which reflects the impact of awareness on compliance with health behaviors. This behavior was

directly related to knowledge of women and the prevalence of risky behaviors among students and shows the need to participate in health promotion programs (24).

Regression test showed a relationship between gender and physical activity representing the predictive ability of gender for physical activity. However, there was no relationship in other dimensions. The study of Taymoori et al showed a difference in terms of gender in the amount of physical activity and psychological factors related to it in adolescents. Physical activity in adolescent girls was low and the time spent for sports activities was about half of boys. These results confirm the findings of Taymoori et al regarding lower physical activity compared to boys of the same age (25,26).

In a research by Robbins et al on 77 adolescent girls, it is revealed that the weakness of self-efficacy was known as the most important obstacle of physical activity (27). Therefore, managers should allocate funds to establish sufficient sports facilities in the universities in order to provide the students with an easy access to them.

The results indicated that most of the girls in dormitories pay attention to their nutritional status. It is because the cooking is one of the characteristics of women, and they cook and prepare food in the dormitory if they needed. In addition, in terms of health responsibility, women care more about their health and visit doctors with any arisen health problem. In a study by Larouche on 151 students, girls had a significantly better behavior than boys in terms of nutrition, interpersonal relationships, health responsibility, and health-promoting lifestyle (28); these are consistent with our results and confirm them.

In a study by Tashiro on Japanese college girls, perceived health had a significant correlation with health-promoting lifestyle and four areas of mental health self-care, physical activity, rest, and commitment to the group (29).

Mohammad-Alizadeh-Charandabi et al (19) showed that adolescent boys gained the highest mean score in the spiritual growth dimension which was consistent with the study of Motlagh on students of Zahedan (15) and the study of Hulme et al in Spanish adults (30). Mohammad-Alizadeh-Charandabi (19) also showed that adolescent boys gained the lowest score in the health responsibility dimension which was consistent with our results and those of Wei et al on Japanese adolescents (31). Pearson correlation coefficient showed a relationship between the mean score of lifestyle dimensions with each other. There was also a correlation between gender and physical activity, but there was no correlation between gender and other dimensions.

A total of 295 students were enrolled in a study which evaluated the healthy lifestyle behaviors in girl students living in a dormitory in Turkey. Data were collected by the Health Promoting Lifestyle Profile (HPLP) questionnaire, and the mean of lifestyle score of students was 120.24 ± 6.99 . There has been a significant difference between exercise, smoking, education place, academic achievement, and a healthy lifestyle behaviors along with its dimensions ($P=0.05$). They concluded that their lifestyle score was

medium (32). This study was in line with the results of our study and confirmed it.

In a study conducted on high school students in Malatya, it was concluded that the score of nutrition dimensions was higher in students who eat breakfast (33); this was not consistent with the results of this study and did not approve it.

According to the findings, women of all ages throughout the world are less interested in physical exercises than men, and researchers attribute this to the personality traits. Researchers at Liverpool University found that girls often like to spend more time with a limited number of their friends and like verbal games, talking, and social connections rather than physical activity, while boys enjoy games with high physical activity such as football, and their friendly groups are made up of more persons like 10 people (33). These 2 characteristics are likely to be related to each other and this behavior will continue to youth and adulthood ages. Having less activity and exercise among women especially in Iran is very important and should be considered as a serious problem.

Women, particularly after menopause, are prone to cardiovascular disease, osteoporosis, and their complications. Although this requires field studies, i.e. measurement of the rate of exercise among Iranian women and determining the possible causes of its low rate in urban and rural communities or in the capital and other cities. But what seems at the first glance is that the women do not desire to exercise in open and public spaces for various reasons such as cultural issues. It is clear that Islamic hijab does not conflict with exercise, but it seems that this mentality has been oppositely shaped in women. It also seems that the Iranian women are accustomed to give thousand excuses and justifications for not exercising. While men include exercise in their daily routine with better planning.

However, it should be noted that women, especially those with higher education, have spent more time for sports and physical activities in recent years. But this does not apply for all women and all categories, and it is essential to promote the sport between women because their health directly affect the health of the family. It is also necessary to pay special attention to the role of social and environmental factors and eliminate the barriers against it.

Conclusion

Planning and implementing the educational programs related to health-promoting lifestyle for students in the educational courses is essential and can be very effective to improve their lifestyle. It is required to design standard interventional and educational programs to improve the students' lifestyle. Supportive packages, nutritional systems, and sport facilities as well as educational, cultural, and recreational programs can decrease academic concerns and preoccupations of this population.

Conflict of interest

None.

Ethical Issues

The study was approved by the Ethics Committee of Zanjan University of Medical Sciences.

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