

## The Assessment of Health-Promoting Lifestyle Status and Its Determinants among Students of Iran University of Medical Sciences

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### ABSTRACT

Careful assessment of lifestyle status among students is a necessity for identifying lifestyle problems and, it is an essential prerequisite for more efficient planning and implementing health promotion interventions among them. This study performed to estimate the current status of a health-promoting lifestyle among students of Iran University of Medical Sciences. This cross-sectional study was performed on 250 students of Iran University of Medical Sciences. By performing a proportional stratified random sampling method according to the number of students in each academic discipline, samples were chosen. The data gathering tool was a two-part questionnaire. The first part was related to demographic and socioeconomic information. The second part consisted of the Health-Promoting Lifestyle Profile (HPLP-II) questionnaire. The data were analyzed using SPSS version 23 through descriptive and inferential statistics. The results were statistically observed as significant at  $p < 0.05$ . The mean score of health-promoting lifestyle was  $124.36 \pm 18.41$ . The highest mean score was for the nutrition dimension ( $23.67 \pm 4.91$ ) and the lowest was for the physical activity dimension ( $15.08 \pm 5.16$ ). This research showed that a statistical proper correlation was found between marital status and spiritual growth. Also, there was a relationship between academic discipline and health responsibility. Additionally, another statistical significant relationship between financial status and health-promoting lifestyle, health responsibility, spiritual growth, and stress management was observed. Since the status of a health-promoting lifestyle is not satisfactory, a wide range of planning and implementing health interventions are needed to improve the health-promoting lifestyle among the students.

**Keywords:** Behaviors, Lifestyle, Students, Health Promotion

### INTRODUCTION

Diseases prevention and public health promotion have been an important concern of the Iranian health system in the last decades [1]. The importance of these goals has resulted that they have been also highlighted at the global level. In the fourth edition of Healthy People (Healthy People 2020), in addition to a greater emphasis on the objectives of the previous programs, two new objectives have been underlined, one of them is to motivate people to engage in healthy behaviours and another one is to provide healthy social and physical environments for promoting healthy behaviours among people and communities [1, 2].

In today's world, lifestyle has been known as a major determinant of individuals' health status. According to the research conducted by the world health organization, less than 65% of the health and quality of life of individuals depends on their lifestyle and personal behaviour [3]. Lifestyle is considered one of the principal determinants of health and illness. It is closely associated with non-communicable and chronic diseases such as cancers, diabetes,

hypertension, and cardiovascular diseases [3, 4]. According to the statistics presented by Moradi and *et.al.*, around 53% of deaths have been attributed to an unhealthy lifestyle and behaviours [3, 4]. Therefore, lifestyle modification and adopting a healthy lifestyle result in decreasing the incidence and severity of many chronic diseases [5, 6].

The individuals' daily routine activities affect their health lifestyle [7]. Non-effective and inaccurate therapeutic measures have resulted in increased healthcare costs. The concept of health promotion has been supported and raised by health experts. Health-promoting lifestyle (HPL) is a multi-dimensional pattern of spontaneous behaviours that is indispensable for health promotion and maintenance as well as self-actualization and personal integrity. The HPL is divided into six important dimensions which include interpersonal relations, health responsibility, spiritual growth, stress management, nutrition, and physical activity [3-8]. By choosing and following a healthy lifestyle, individuals seek to sustain and improve their health and prevent the onset of disease

through having a healthy diet, regular physical activity, body weight control, and avoiding smoking and drinking alcohol. Indeed, promoting a healthy lifestyle has been known as a requisite for health [7]. The quality of life and disease prevention have been affected by choosing a proper lifestyle and it is known as the importance of lifestyle [8]. Further, community health promotion is a milestone for community development [7].

Student life has been accompanied by multiple problems which can affect the students' physical and mental health [9]. Like other segments of society, students' health predominantly depends on lifestyle factors such as eating habits and physical activity [10]. Student life is a period during which students gradually assume greater responsibility for their health. This transient period is the best time for students to develop healthy behaviours. Therefore, students should be well informed about healthy behaviours so that they can apply healthy predictive behaviours to improve their health and quality of life [9]. A significant proportion of the adult population in countries belongs to university students, and hence their positive attitude toward a healthy lifestyle not only affects academic's health but also the whole society [11].

During this period of time, by decreasing parental control over students' behaviours, particularly to students living in dormitories, Student life has been usually associated with a large change. According to the paper presented by Dhiman and *et.al.* students are more likely to engage in unhealthy and wrong behaviours which put them at risk of several chronic diseases such as lung cancer, cardiovascular diseases, stomach ulcer, etc. [4, 11]. It is undeniable that a wide variety of unhealthy behaviours such as poor eating habits, lack of physical activity, irregular sleep, risky sexual behaviours, smoking and alcohol consumption have been experienced by students in this period of lifetime. [1, 4, 11]. In addition, the young age of students may make them believe that they are in perfect health. This misconception stems from a lack of knowledge regarding the negative aspects of an unhealthy lifestyle. Therefore, the study of lifestyle status and its related factors among students is a prerequisite for planning preventive measures and controlling non-communicable diseases [4]. By considering the importance of adopting health-promoting behaviours by students, plenty of studies have been conducted in Iran and around the world to assess the status of the HPL among students, mostly indicating an unacceptable status of HPL among them [1, 4, 7-13].

At present, there is a global interest in promoting the health of different groups of people by creating healthy behaviours among them [2]. Consequently, accurately

assess the lifestyle of groups at risk of unhealthy behaviours, including university students is important at the international level. Different countries around the world by studying their students' lifestyles can identify the weaknesses in their lifestyles and then pursue a variety of health interventions aimed at improving lifestyle and disease prevention among them plan and implement. Taking into account the above-mentioned issues and lack of sufficient studies in this regard, the present study aimed to assess the status of HPL among the students of Iran University of Medical Sciences (IUMS).

## MATERIALS AND METHODS

This cross-sectional, descriptive-analytic study was performed on 250 students of IUMS. First, students with no history of physical or mental health problems were selected. Then, students with physical or mental problems, guest students in IUMS, and transfer students to other universities were excluded. The required sample size of 250 students was estimated using Cochran's formula with a confidence level of 95% and a precision of 5% and according to the sample size, mean, and standard deviation of lifestyle scores in the study of Tol *et al.* [7]. Therefore, 250 students were finally selected using the proportional stratified random sampling method according to the number of students in each academic discipline.

The data gathering tool was a two-part questionnaire. The first part consisted of demographic and socioeconomic information including age, gender, marital status, academic discipline, educational level, residency status, job status, type of employment, and financial status. The second part included the Health-Promoting Lifestyle Profile (HPLP-II) questionnaire, developed by Walker *et al.* [14]. This questionnaire has been widely used to assess the HPL and its six dimensions. It contains 52 items answered with a 4-point Likert scale (1 = never, 2 = sometimes, 3 = often, 4 = always). The score for each answer ranges from 1 to 4. The mean score of each dimension is obtained by averaging the scores given for all answers. In addition, the total HPL score is obtained from the mean scores of the answers to all 52 questions and ranges from 52 to 208. A higher score indicates better HPL. According to the total HPL score, respondents were classified into three categories. Scores equal to or less than 49 indicated having poor HPL status, 50 to 74 indicated having average HPL status, and equal to or more than 75 indicated having good HPL status [1]. The reliability of the Health Promoting Lifestyle Profile questionnaire has been previously confirmed by Cronbach's alpha, with values of (0.86) for health responsibility, (0.85) for physical activity, (0.88) for nutrition (0.86), for spiritual growth (0.87), for interpersonal relations, (0.79) for stress management,

and (94.9) for the whole questionnaire [14]. The validity and reliability of the Persian version of the questionnaire have been also assessed by Mohammadi Zeidi *et al.* in Iran, and the Cronbach's alpha coefficient has been reported to be (0.86) for health responsibility, (0.79) for physical activity, (0.81) for nutrition, (0.64) for spiritual growth, (0.75) for interpersonal relations, (0.91) for stress management, and (0.82) for the whole questionnaire [15].

All data were analyzed using SPSS version 23 through descriptive statistics (mean, standard deviation, frequency, and percent) as well as inferential statistics (independent t-test or its non-parametric equivalent Mann-Whitney U test, and one-way ANOVA or its non-parametric equivalent Kruskal-Wallis test).

Appropriate parametric or non-parametric tests were employed according to the Skewness and Kurtosis measures and normality of data. Results were considered significant at  $p < 0.05$ .

## RESULTS

The mean age of the students was  $23.52 \pm 3.78$ . Half of the students were men and the other half were women. Most of the students were single (82.4%), non-dormitory residents (57.2%), unemployed (80.4%), and undergraduate (58.8%). There were more health students (20.4%) than in other academic disciplines. The majority of students (64.8%) expressed their financial status as average (Table 1).

**Table 1:** Demographic characteristics and socioeconomic status of the participants

| Variable            | Sub-variable     | Number (%) |
|---------------------|------------------|------------|
| Gender              | Male             | 125(50.0)  |
|                     | Female           | 125(50.0)  |
| Marital status      | Single           | 206(82.4)  |
|                     | Married          | 44 (17.6)  |
| Academic discipline | Health           | 51 (20.4)  |
|                     | Nursing          | 49 (19.6)  |
|                     | Medical          | 50 (20.0)  |
|                     | Paramedical      | 50 (20.0)  |
|                     | Management       | 50 (20.0)  |
| Educational level   | Bachelor         | 147 (58.8) |
|                     | Master           | 47 (18.8)  |
|                     | PhD.             | 56 (22.4)  |
| Residency status    | Dormitory        | 107 (42.8) |
|                     | Non-dormitory    | 143 (57.2) |
| Job-status          | Employed         | 49 (19.6)  |
|                     | Unemployed       | 201 (80.4) |
| Type of employment  | Governmental     | 45 (18.0)  |
|                     | Non-governmental | 4 (1.6)    |
| Financial status    | Good             | 54 (21.6)  |
|                     | Average          | 162 (64.8) |
|                     | Poor             | 34 (13.6)  |
| Total               |                  | 250 (100)  |

The mean score of HPL was  $124.36 \pm 18.14$ . The mean scores of HPL dimensions were as follows; ( $21.12 \pm 4.16$ ) for health responsibility, ( $15.08 \pm 5.16$ ) for physical activity, ( $23.74 \pm 4.73$ ) for nutrition, ( $23.67 \pm 4.91$ ) for spiritual growth, ( $23.44 \pm 4.16$ ) for interpersonal relations, and ( $17.29 \pm 3.50$ ) for stress management. The highest mean score was for the nutrition dimension (65.94 of 100) and the lowest was for the physical activity dimension (47.12 of 100) (Table 2). Moreover, 9.6% of students had a poor HPL status, while 84% had an average HPL status, and only 6.4% had a good HPL status.

There was no significant difference in the mean scores of HPL and its dimensions between men and women. Furthermore, there was no significant difference between the mean scores of HPL and its dimensions (except spiritual growth dimension) in single and married participants. The mean score of spiritual growth in married participants was significantly higher

than singles ( $p < 0.01$ ). In addition, there was no significant difference between the mean scores of HPL and its dimensions (except the health responsibility dimension) in different academic disciplines. The mean score of health responsibility in health students was significantly lower than those of other disciplines ( $p < 0.04$ ). Moreover, there was no significant difference between the mean scores of HPL and its dimensions with educational level, residency status, job status, and type of employment. There was a significant relationship between the financial status of the participants and the mean scores of HPL and health responsibility, spiritual growth, and stress management dimensions. Thus, the mean scores of HPL ( $p < 0.02$ ) and health responsibility ( $p < 0.008$ ), spiritual growth ( $p < 0.03$ ), and stress management ( $p < 0.03$ ) dimensions were significantly lower in students with poor financial status than those with an average or good financial status (Table 3).

**Table 2:** The mean scores and standard deviation of HPL and its dimensions

| Variable                | Mean ± SD    | Possible range | Observed range | Mean (from 100) |
|-------------------------|--------------|----------------|----------------|-----------------|
| Health responsibility   | 21.12±4.16   | 9-36           | 11-34          | 58.16           |
| Physical activity       | 15.08±5.16   | 8-32           | 8-32           | 47.12           |
| Nutrition               | 23.74±4.73   | 9-36           | 11-36          | 65.94           |
| Spiritual growth        | 23.67±4.91   | 9-36           | 9-36           | 65.75           |
| Interpersonal relations | 23.44±4.16   | 9-36           | 9-36           | 65.11           |
| Stress management       | 17.29±3.50   | 8-32           | 8-29           | 54.03           |
| Total                   | 124.36±18.14 | 52-208         | 58-194         | 59.78           |
| Age                     | 23.52±3.78   |                |                |                 |

HPL: Health-promoting lifestyle, SD: Standard deviation.

**Table 3:** Mean and standard deviation of HPL and its dimensions according to demographic and socioeconomic variables

| Variable            | Sub-variable            | Health responsibility    | Physical activity | Nutrition         | Spiritual growth        | Interpersonal relations | Stress management       | Total                   |
|---------------------|-------------------------|--------------------------|-------------------|-------------------|-------------------------|-------------------------|-------------------------|-------------------------|
|                     |                         | Mean±SD                  | Mean±SD           | Mean±SD           | Mean±SD                 | Mean±SD                 | Mean±SD                 | Mean±SD                 |
| Gender              | Male                    | 20.64±4.91               | 15.12±4.91        | 23.28±4.57        | 23.08±4.92              | 22.98±4.04              | 17.40±3.62              | 122.54±18.03            |
|                     | Female                  | 21.60±4.44               | 15.04±5.41        | 24.20±4.86        | 24.26±4.84              | 23.90±4.25              | 17.17±3.40              | 126.19±18.13            |
|                     | p                       | 0.13 <sup>a</sup>        | 0.69 <sup>a</sup> | 0.17 <sup>a</sup> | 0.06 <sup>b</sup>       | 0.12 <sup>a</sup>       | 0.60 <sup>b</sup>       | 0.11 <sup>b</sup>       |
| Marital status      | Single                  | 21.07±4.14               | 15.14±4.94        | 23.55±4.77        | 23.31±4.86              | 23.59±4.24              | 17.17±3.41              | 123.86±18.08            |
|                     | Married                 | 21.36±4.29               | 14.81±6.13        | 24.63±4.51        | 25.36±4.81              | 22.72±3.75              | 17.81±3.90              | 126.72±18.43            |
|                     | p                       | 0.62 <sup>a</sup>        | 0.34 <sup>a</sup> | 0.13 <sup>a</sup> | <b>0.01<sup>b</sup></b> | 0.21 <sup>a</sup>       | 0.27 <sup>b</sup>       | 0.34 <sup>b</sup>       |
| Academic discipline | Health                  | 19.94±3.95               | 13.92±4.19        | 23.39±4.06        | 22.96±3.52              | 23.58±2.92              | 16.98±3.34              | 120.78±14.29            |
|                     | Nursing                 | 21.71±4.38               | 14.63±5.71        | 23.91±4.99        | 23.71±5.27              | 23.85±4.73              | 16.81±3.81              | 124.65±20.65            |
|                     | Medical                 | 20.42±3.81               | 15.28±5.10        | 22.56±4.32        | 23.14±4.91              | 22.34±4.26              | 17.10±3.06              | 120.84±17.13            |
|                     | Paramedical             | 21.62±4.67               | 15.42±5.06        | 23.46±4.58        | 24.78±4.81              | 24.12±3.69              | 17.68±2.99              | 127.08±17.39            |
|                     | Management              | 21.98±3.67               | 16.18±5.54        | 25.40±5.34        | 23.80±5.76              | 23.32±4.87              | 17.88±4.20              | 128.56±19.96            |
| P                   | <b>0.04<sup>c</sup></b> | 0.32 <sup>c</sup>        | 0.09 <sup>c</sup> | 0.37 <sup>d</sup> | 0.13 <sup>c</sup>       | 0.48 <sup>d</sup>       | 0.10 <sup>d</sup>       |                         |
| Educational level   | Bachelor                | 21.02±4.07               | 14.70±5.11        | 23.55±4.79        | 23.20±4.68              | 23.14±4.48              | 17.00±3.67              | 122.61±18.85            |
|                     | Master                  | 20.85±4.04               | 16.04±5.49        | 24.36±5.00        | 24.10±5.33              | 23.46±3.50              | 17.63±3.42              | 126.46±16.31            |
|                     | PhD.                    | 21.64±4.49               | 15.28±4.96        | 23.73±4.39        | 24.55±5.05              | 24.21±3.76              | 17.67±3.08              | 127.19±17.42            |
|                     | P                       | 0.59 <sup>c</sup>        | 0.27 <sup>c</sup> | 0.67 <sup>c</sup> | 0.17 <sup>d</sup>       | 0.17 <sup>c</sup>       | 0.28 <sup>d</sup>       | 0.18 <sup>d</sup>       |
| Residency status    | Dormitory               | 20.95±4.52               | 14.93±5.18        | 23.36±4.58        | 23.86±4.92              | 23.97±4.38              | 17.42±3.54              | 124.52±18.22            |
|                     | Non-dormitory           | 21.25±3.87               | 15.19±5.15        | 24.02±4.84        | 23.53±4.91              | 23.04±3.96              | 17.18±3.48              | 124.25±18.14            |
|                     | p                       | 0.56 <sup>a</sup>        | 0.65 <sup>a</sup> | 0.30 <sup>a</sup> | 0.59 <sup>b</sup>       | 0.15 <sup>a</sup>       | 0.59 <sup>b</sup>       | 0.90 <sup>b</sup>       |
| Job status          | Employed                | 21.81±4.01               | 15.71±5.73        | 24.20±4.64        | 24.04±4.80              | 22.69±3.62              | 17.18±3.28              | 125.65±16.33            |
|                     | Unemployed              | 20.96±4.18               | 14.93±5.01        | 23.63±4.76        | 23.58±4.94              | 23.62±4.27              | 17.31±3.56              | 124.05±18.58            |
|                     | p                       | 0.20 <sup>a</sup>        | 0.54 <sup>a</sup> | 0.58 <sup>a</sup> | 0.56 <sup>b</sup>       | 0.73 <sup>a</sup>       | 0.81 <sup>b</sup>       | 0.58 <sup>b</sup>       |
| Type of employment  | Governmental            | 21.88±4.14               | 15.88±5.92        | 24.60±4.60        | 24.06±4.99              | 22.44±3.62              | 17.28±3.39              | 126.17±16.93            |
|                     | Non-governmental        | 21.00±2.44               | 13.75±2.50        | 19.75±2.06        | 23.75±1.89              | 25.50±2.64              | 16.00±1.41              | 119.75±3.94             |
|                     | Unemployed              | 20.96±4.18               | 14.93±5.01        | 23.63±4.76        | 23.58±4.94              | 23.62±4.27              | 17.31±3.56              | 124.05±18.58            |
|                     | p                       | 0.41 <sup>c</sup>        | 0.71 <sup>c</sup> | 0.11 <sup>c</sup> | 0.84 <sup>d</sup>       | 0.07 <sup>c</sup>       | 0.76 <sup>d</sup>       | 0.68 <sup>d</sup>       |
| Financial status    | Good                    | 21.75±3.74               | 15.11±4.80        | 24.01±4.31        | 23.88±4.71              | 24.05±3.43              | 17.59±3.13              | 126.42±15.61            |
|                     | Average                 | 21.29±4.13               | 15.34±5.21        | 23.70±4.74        | 24.03±4.85              | 23.55±4.35              | 17.50±3.48              | 125.44±17.85            |
|                     | Poor                    | 19.32±4.55               | 13.79±5.42        | 23.50±5.43        | 21.61±5.11              | 21.94±4.05              | 15.79±3.90              | 115.97±21.22            |
|                     | P                       | <b>0.008<sup>c</sup></b> | 0.17 <sup>c</sup> | 0.87 <sup>c</sup> | <b>0.03<sup>d</sup></b> | 0.08 <sup>c</sup>       | <b>0.03<sup>d</sup></b> | <b>0.02<sup>d</sup></b> |

HPL: Health-promoting lifestyle, SD: standard deviation, a: Mann-Whitney U, b: T-test; c: Kruskal-Wallis, d: One-way ANOVA.

## DISCUSSION

The mean score of HPL in students of IUMS was 124.36 ± 18.41. In fact, the participants obtained

59.78% of the overall HPL score which is slightly below average [8]. A relatively similar HPL score (119 ± 20.3) was observed in a study conducted among

Iranian students residing in dormitories of Tehran University of Medical Sciences [1]. In addition, an almost higher HPL score ( $135.38 \pm 15.21$ ) was observed in a study conducted among university students of Sabzevar, Iran [4]. The mean score of HPL in the present study based on the Likert scale was  $2.39 \pm 0.34$  which is lower than the scores obtained by Japanese students ( $2.50 \pm 0.29$ ) in the study of Wei *et al.* [13], Indian students ( $2.60 \pm 0.20$ ) in the study of Dhiman *et al.* [11], and Jordanian students in the study of Alkhawalde *et al.* ( $2.40 \pm 0.40$ ) [16]. These contradictory findings may be due to differences in studies time, studies location, demographic characteristics of the subjects under study, and how to complete the questionnaires. A point to note in this study is that the mean score of HPL in students of IUMS was lower than that of the most foreign studies done in this field [11, 13]. It is not acceptable, consequently, the design and implementation of health education and health promotion interventions aiming at improving HPL among them should be given high priority. To reach this goal, it is recommended to establish counselling centres in universities and to benefit from the experiences of health educators and psychologists to provide students with accurate and relevant information on how to maintain and improve their HPL.

Among the dimensions of HPL, students obtained the highest score in the nutrition dimension and the lowest score in the physical activity dimension. Consistent with our result, Emami *et al.* found the highest score of spiritual growth and nutrition dimensions, and the lowest score of physical activity dimension among the students of Mazandaran University of Medical Sciences [17]. In addition, the lowest score of physical activity dimension was reported by Ramazankhani *et al.* is in agreement with our results [18]. Factors that reduce physical activity among students include lack of motivation, lack of sports facilities, particularly in dormitories, and intensive curricula [19]. Therefore, improving physical activity by eliminating barriers should be paid more attention to while designing and implementing health education and health promotion interventions aiming at HPL improvement. For this purpose, it is suggested to motivate students to do more physical activity by organizing a well-equipped sports hall and arranging competitive sports events among them.

In this study, there was no significant difference in the mean scores of HPL and its dimensions between men and women. In a study by Maheri *et al.*, gender was associated only with the mean score of physical activity dimension as she reported a significantly higher score of physical activity dimension in men [1]. Emami *et al.* also reported a significantly higher mean score of HPL in men [17]. In addition, Wei *et al.*

reported significantly higher mean scores of health responsibility, physical activity, interpersonal relations, and nutrition dimensions in men [13], which differs from our results. However, our results confirm those of previous studies that have reported a lack of significant difference in the mean scores of HPL and its dimensions between men and women [11, 20]. Differences in the level of knowledge, beliefs, values, and access to sports facilities and clubs between men and women as well as differences in cultural structure of societies under study can be a probable reason for some of these conflicts [21]. Finally, it is suggested that the design and implementation of health education and health promotion interventions aiming at improving HPL among students of IUMS, regardless of gender, should be considered equally among male and female students.

Marital status was only associated with the mean score of spiritual growth, so the mean score of spiritual growth in married students was significantly higher than in singles. Unlike our results, other studies have not found a significant difference in the mean score of spiritual growth between men and women [11, 16]. However, Mehri *et al.* reported results similar to ours [4]. This finding is justified by the fact that loneliness and isolation cause disinterest and have a negative impact on one's spiritual growth, while the presence of a spouse and family members alongside the individuals encourages them to attend religious ceremonies, which results in spiritual growth [22]. Some argue that spiritual growth plays a pivotal role in physical and mental health and is a solution to deal with the problems [23]. Hence, when implementing health interventions to improve HPL, focus on the spiritual growth of single students seems to be a sensible approach. Furthermore, religious beliefs and spirituality have a special place among Iranian families. Thus, family and close people can be involved in lifestyle interventions and play a key role to promote the health and spiritual growth of the students.

The mean score of health responsibility in public health students was significantly lower than those of other disciplines. Nevertheless, a similar study conducted among Iranian university students indicated no significant difference in the mean scores of HPL and its dimension between different academic disciplines such as health, dentistry, and nursing [20]. Considering the lack of studies comparing the HPL status among students with different academic disciplines, further studies are needed for a more accurate comparison.

Based on the results of this study, the mean scores of HPL and health responsibility, spiritual growth, and stress management dimensions were significantly lower in students with poor financial status than those

with an average or good financial status. This finding agrees with that of Pakseresht *et al.* who demonstrated higher scores of HPL in students with good financial status [20]. Another similar finding was seen in a study by Kirag *et al.* in which the mean scores of HPL and health responsibility, interpersonal relations, and stress management dimensions were significantly higher in students with a good financial status than those with a poor financial status [24]. These findings are not unexpected, because one of the most important factors to have a healthy lifestyle, including access to healthy nutrition, is the good financial status [20, 24]. Therefore, it can be ascertained that financial status is a substantial factor affecting students' lifestyle. Unfortunately, though, it is more arduous than other variables to intervene and improve the financial status of students.

## CONCLUSION

The status of HPL and its dimensions among students of IUMS was not satisfactory. This finding indicates the pressing need for implementing a variety of health education and health promotion interventions to maintain and improve the status of HPL among students. Intensive curricula and lack of free time may cause students not to participate in lifestyle promotion programs. In addition, student life is a critical period, with a lot of change in behaviour and practice. At this period, parental control is minimal, particularly for students living in dormitories, and students are more likely to be involved in unhealthy lifestyle behaviours such as alcohol and tobacco use, lack of physical activity, overwhelming stress, unhealthy nutrition behaviours, smoking, etc. These behaviours put students at risk of several chronic diseases including lung cancer, cardiovascular diseases, stomach ulcer, etc. Consequently, HPL interventions must be as close as possible to the students. Establishing counselling centres in dormitories and universities, and getting help from health education specialists and psychologists to learn students how to overcome barriers in the way of a healthy lifestyle and how to improve their lifestyle using behaviour change might lead to achieving this target.

## ETHICAL ISSUES

The ethical considerations of this study included obtaining an ethics code (IR.IUMS.REC.1395.9321108002) from the ethics committee of IUMS, obtaining oral informed consent from the students to participate in the study, and assurance about the confidentiality of their personal information.

## CONFLICT OF INTEREST

The authors have no conflicts of interest to declare for this study.

## AUTHORS' CONTRIBUTIONS

All authors participated in all stages of the study and contributed equally.

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