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Health Related Life Style Among the Iranian Medical Students

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Abstract: According to the definition of World Health Organization (WHO), life style is the method of life built on specific behavioral patterns. We performed a survey among a group of Iranian medical students to identify their health related life style. A cross sectional study was performed by using the questionnaire. In this process, three-hundred out of all 800 medical students who have entered the medical faculty of Tabriz Medical University, Iran during 1998 and 2004 participated in the survey. The questions were designed based on the health behaviors among the medical students. Approximately 14% of all respondents reported that they used tobacco. Fifty eight percent of smokers resided in the students' dormitory. Half of the smokers declared that they smoke less than 5 cigarettes a day while 16.7% smoked more than fifteen cigarettes per day. Thirteen percent of the students drink alcoholic beverages. Furthermore, 50% of the students declared the ages of 19-22 as the age of first alcohol intake. Approximately 59% said that they eat food regularly at all the three main meals. Also 45.5% of females and 54.5% of males eat junk foods more than 5 times a week. Nearly 67% of the women and 33% of men eat fruit and vegetables more than 4 servings a week. Exercise was more frequent in the lower year medical students. This study demonstrated that unhealthy behaviors are increasing among the medical students; however Iranian medical students' unhealthy habits are lesser than those of university students assessed in America and European countries.

Key words: Life style, tobacco smoking, diet, alcohol consumption, medical students

INTRODUCTION

According to the definition of World Health Organization, life style is the method of life which is built on specific behavioral patterns and determined by how the individual's personality deals with the social, economical and environmental factors (Edelman and Mandle, 2002; Stanhope and Lancaster, 2000).

Nowadays it has been clarified that more than 80% of the people's health is related to their life styles. Tobacco smoking, diet, alcohol consumption and physical activity are the key aspects of lifestyle influencing the health (Rohrer *et al*., 2005). An increase in the prevalence of multifactorial diseases in recent years has been attributed to the individuals' life style. However, it is possible to prevent such diseases by healthy diet education, reinforcement and elimination of the positive (physical activity) and negative habits (smoking), respectively (Rohrer *et al*., 2005; Volpe, 2006).

Lifestyle and health attitudes seem to be established early in life, setting the pattern for later years (Steptoe *et al*., 2002). Since, students constitute an important proportion of the society from which the upcoming policy makers and prominent persons will be drawn, their health-related activities are of particular interest (Steptoe *et al*., 2002). Furthermore, university students are an easily accessible, relatively healthy sector of the population with similar educational backgrounds; this eliminates variability due to ill health and education, both of which influence health practices (Gottlieb and Green, 1984). Among the university students, the students of medical fields particularly the medical students play crucial roles in development and enhancement of the society's health status (Larouche, 1998). Since, the diverse and solid evidences demonstrated an inappropriate life style among the medical society (Kamien and Power, 1996; Carter *et al*., 2003), we therefore performed a survey among a group of Iranian medical students to identify their health related life style. The results of this survey will be used in the medical students' health promotion programs which lead to the improvement of their health status and in turns delivering the healthy physicians to the society.

MATERIALS AND METHODS

The study population consisted of all medical students of Tabriz University of Medical Sciences who

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has entered the medical faculty during 1998 and 2004. Tabriz is one of the largest cities in North West of Iran. Medical education lasts for seven years in Iran and consists of three levels; Basic Sciences, Preclinical and Internship. This study was performed on the students of all the mentioned three levels. A self-administered anonymous questionnaire was used to assess the medical students' health status. The questionnaire was developed based on a literature review and experts' opinions. The questionnaire included 40 questions and covered the subscales such as basic characteristics, nutritional habits, physical activity and personal habits (tobacco use and alcohol consumption). Most items consisted of the multiple-choice questions. To measure the tobacco use, we asked respondents whether they used cigarettes. Response options were "yes" and "no". In case of positive response, some questions should be answered regarding the age of the start of smoking, the number of cigarettes they smoke everyday and their parents' awareness of their smoking. To evaluate alcohol consumption, we asked respondents whether they drank alcoholic drinks. This category was proceeded by asking the respondents about the frequency of their drinking (never, once a month, 2-3 times a month, 1-3 times a week, every day) and the age of first intake. We assessed physical activity with a question concerning the frequency of exercise on a 5-point scale (never, rarely, sometimes, usually and always).We regarded physical activity as a period of at least 15-20 min of exercise of any kind. A "yes", "no" question was designated whether they take part in a sport team (basketball, soccer, swimming and etc). The students were also asked to declare the reason in case of no regular exercise program. Dietary behavior was determined by consumption of fruit and vegetables, milk or other dairy products and fast foods. Participants were asked about their weekly frequency of fruit, vegetables and dairy products consumption (more than eight times, 4-7 times a week, two or 3 times a week, once a week, never) and whether they eat food regularly at all the three main meals (breakfast, lunch and dinner) every day. In case of omission of any of the daily meals, they were asked to remark the specific meal. A 4-point scale (never, less than three servings, 3-5 servings, more than five servings) was designed to measure the number of servings in which the students eat fast foods.

Data were analyzed using SPSS Version 12. We used various descriptive analytical calculations and both chi-square and T-test to analyze the relationships. It should be mentioned that significant associations and differences between the variables are propounded when p value was equal or less than 0.05.

RESULTS

Out of 800 medical students, three hundred filled questionnaires were received, representing a 37.5% response rate. The mean age was over 22 (age range 16-30). Most of them were born in urban areas, unmarried and financially dependent on their parents' support. The socio-demographic characteristics of the respondents are summarized in Table 1.

Approximately 14% of all respondents reported that they used tobacco. This percentage consists of 88.9% of male and 11.1% of female. Gender and tobacco use were strongly associated, with more smokers among the male students ($p<0.001$). In addition, 24.7% of the students reported that their parents were aware of their smoking habits. Half of the smokers declared that they smoked less than five cigarettes a day while 16.7% smoked more than fifteen cigarettes per day. Although 58.3% of smokers resided in the students' dormitory, no significant association related to cigarette smoking exists between the dormitory and non-dormitory students ($p = 0.3$). Also, the rate of smoking among the Interns was much higher

Table 1: The respondents' characteristics (n = 300)

Student characteristics	Number	Percentage
Age (years)		
Min.	16	
Max	30	
Mean (S.D)	22.3 (6.26)	
Sex		
Male	143	47.7
Female	157	52.3
Place of birth		
Urban	228	76
Rural	72	24
Marital status		
Married	38	12.9
Unmarried	254	86.4
Widow	2	0.7
Living conditions		
Living in their own house	68	22.8
Living in a rented house	17	5.7
Living in dormitory	146	49
Living with parents	63	21.1
Living with family	3	1
Parental education level		
University education	149	49.6
Diploma	82	27.4
Lower	69	23
Sources of income		
Support from parents	265	88.3
Support from spouse	16	5.4
Income from employment	25	8.4
Study loan	55	18.2
Contentment of the field of study		
Very content	98	32.7
Content	138	45.8
Moderate	40	13.5
Little	15	5
Very little	4	1.3
Never	5	1.7

Table 2: Comparison of dietary status with gender, place of residence and educational status

	Dietary status		
	Good	Moderate	Poor
Male	40.5	56.3	79.3
Female	59.5	43.8	20.7
Dormitory students	42.2	56.3	62.1
Non-dormitory students	57.8	43.8	37.9
Basic Sciences students	30.7	36.7	41.6
Physiopathology students	7.2	7.6	6.9
Externs and interns	62	55.7	52.1

than the students of Basic Sciences level and the difference was significant (79.4% of Interns compared with 14.7% of the students of Basic Sciences section; $p<0.05$). In terms of alcohol, 13.1% of students, 93.2% male and 6.8% female, intake alcoholic drinks. This result demonstrates a significant association between gender and alcohol consumption ($p<0.001$). Figure 1 shows the differences between the ages of first alcohol consumption and cigarette smoking.

The prevalence of physical activity was significantly higher in men than women ($p = 0.02$). According to the question "Do you exercise 15-20 min a day?" only 7.1% of the students responded as always. On the other hand, nearly 30% *rarely* do exercise and 21.4% *never* do exercise. More than 45% of the students mentioned the lack of time, 40.6% declared apathy and almost 10% expressed the continuous fatigue as the reasons of decline in the physical activity. It is further understood from the survey that only 14% of the students play in a sport team. A significant association was found between the physical activity and the entrance year of the students. In other words, exercise was more frequent in the lower year medical students. The variance analysis test revealed that the first-year students were the most active and the sixth and seventh-year medical students were the least active regarding the physical activity. No significant association was considered between the physical activity and educational status of the students or between the physical activity and the residence of the students (dormitory or non-dormitory).

Nearly 59% declared that they ate food regularly at all the three main meals (breakfast, lunch and dinner) and 41.9% of the students had no regular eating program at the meals i.e. they omit a meal or they eat a little food at the meal. Of this group of students, 64.6% omit breakfast, 27.3% omit dinner and only 8.3% omit lunch. 45.5% of female students and 54.5% of males eat fast foods more than 5 times per week. Nevertheless, this finding does not show a significant association between the variables. Of everyone who eats 4 or more servings of fruit and vegetables per week, 68% were female and 32% were male. A significant association was discovered between the

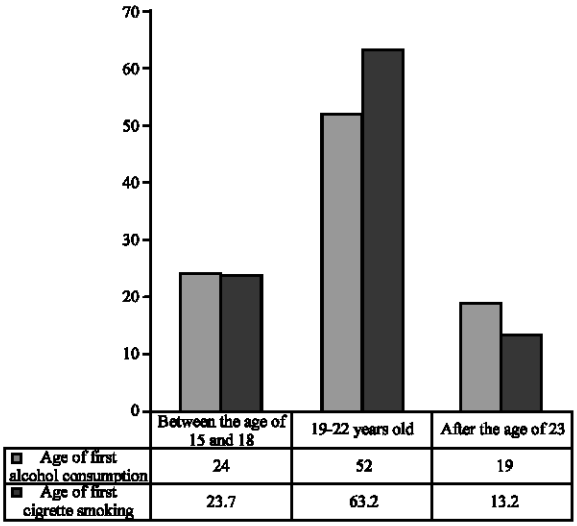

Fig. 1: Differences of the ages of first alcohol consumption and cigarette smoking

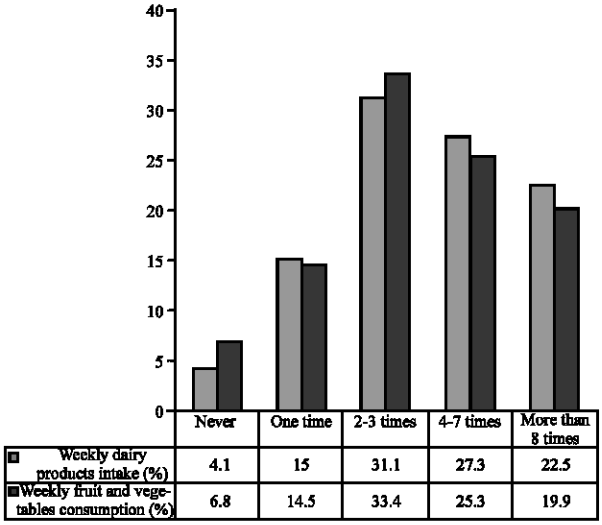

Fig. 2: Weekly frequency of dairy products intake and fruit and vegetables consumption

gender and fruit and vegetables consumption ($p<0.05$). A similar significant association was considered between the gender and fresh milk and dairy intake (59.6% of female students and 40.4% of male, $p<0.05$). Among the students who consume dairy products less than 2 times a week or never intake these products, the men (27%) constitute the most, compared with the women (11%). In order to evaluate the dietary status of the students, we graded the students' responses related to the rate of dairy, fruit, vegetables and junk food intake as *good* (four times or more per week), *moderate* (two or three times a week) and *poor* (one time or never). The results derived from this grading are shown in Table 2.

Female students have more regular and better dietary habits compared to the males ($p<0.05$). There was also a significant association between the place of residence and the dietary status of the students, i.e. the students residing in the dormitory had less regular and worse dietary habits rather than the non-dormitory students ($p = 0.03$). Furthermore, Interns were better than the students of Basic Sciences section regarding their dietary status ($p<0.05$). Figure 2 demonstrates the weekly frequency of fruit and vegetables consumption and dairy products intake.

DISCUSSION

In this study, we described a group of Iranian medical students' health behaviors and life style. Although this study demonstrates that unhealthy habits and behaviors (smoking, inappropriate dietary habits and alcohol consumption) are increasing among the students, we found that Iranian medical students' unhealthy habits are lesser than those of the populations of university students assessed in other surveys (Steptoe and Wardle, 2001; Granville-Chapman *et al*., 2001; Adderly-Kelly and Green, 2000; Jones *et al*., 2001; Wechsler *et al*., 2002; Vaez and Laflamme, 2003).

The proportions of alcoholic beverage drinkers (13.1%) and tobacco users (14%) are incomparable with the findings in the United States (Adderly-Kelly and Green, 2000; Jones *et al*., 2001; Wechsler *et al*., 2002) and in Western and Eastern Europe (Steptoe *et al*., 2002; Steptoe and Wardle, 2001; Granville-Chapman *et al*., 2001; Vaez and Laflamme, 2003). Since, no field of study separation has been done among the students in the surveys compared with the current research (Steptoe *et al*., 2002; Steptoe and Wardle, 2001; Vaez and Laflamme, 2003), comparison of this percentage with the findings from other surveys shows small difference between the prevalence of smoking. More than 3-5 smoker students mentioned the ages of 19-22 as the first age of smoking. This period of time correlates with the time the students enter the university. In comparing female with male students, we discovered that tobacco use was more frequent among men than women, compared well with the findings in the United States (Adderly-Kelly and Green, 2000; Rigotti *et al*., 2002) and in Europe (Steptoe *et al*., 2002; Vaez and Laflamme, 2003).

When we compared male and female differences in alcohol consumption, it appeared that the male students were more frequent drinkers than their female peers. Similar finding has been shown in various surveys (Jones *et al*., 2001; Wechsler *et al*., 2002; Vaez and Laflamme, 2003; Collier and Beals, 1989; Wechler *et al*., 1995). Nevertheless, due to the higher rates of alcohol consumption in American and European countries (Steptoe and Wardle, 2001; Granville-Chapman *et al*., 2001; Adderly-Kelly and Green, 2000; Jones *et al*., 2001; Wechsler *et al*., 2002; Vaez and Laflamme, 2003), the rate of alcohol consumption among the European female students is even higher than the Iranian male and female medical students. It has been suggested that women who engage in alcoholic beverages drinking seem less willing to their alcohol drinking level be recognized, the likelihood of greater underreporting bias among female students could lead to an overestimation of the differences between men and women (Collier and Beals, 1989; Wechler *et al*., 1995).

Both in our study and previous surveys, the prevalence of physical exercise as well as playing in the university sport teams was significantly higher in men than women (Steptoe *et al*., 2002; Steptoe *et al*., 1997). No definitive reason has been found regarding the high prevalence of physical activity among the men neither in the current nor the other studies (Steptoe *et al*., 2002; Vaez and Laflamme, 2003). In accordance with the entrance year of the medical students, the 1st-year students were the most active and the 7th year medical students were the least active regarding their physical activity. This clarifies the fact that owing to the hard work in the hospitals, the seventh year medical students are less active than the lower year medical students. Since negative outcomes (constant fatigue, apathy and lack of time) are pursuant to the hard work, working at the hospital may be considered to have negative physical and psychological effect on the medical students' life style. The findings revealed that the physical activity status is fairly poor among the medical students. A remarkable difference was found between the current data and the findings from the European studies (Steptoe *et al*., 2002; Steptoe and Wardle, 2001; Vaez and Laflamme, 2003). Steptoe *et al*. (2002) reported that 76% of men and 65% of women had exercised at least once over the past 2 weeks in 2000, compared with 72% men and 62% women in 1990 among the university students of thirteen European countries, demonstrating remarkable differences between our study and their survey. The reason of this difference seems roughly impossible to be assessed by using the available current information and data.

According to our study, female medical students eat more fresh fruit and vegetables and intake milk or other dairy products than males, showing the similar finding with the study performed by Steptoe *et al*. (2002). In addition, men consume fast foods more frequent than women. Thus overall, female students have better and healthier dietary habits compared to male students. Presuming that the Iranian women are traditionally interested in cooking; it may be a probable reason of lower fast food consumption among the Iranian female students. Similar studies indicate the increasing unhealthy

trends of diet (consumption of fried foods and decline in the fruit and dairy intake) among the different groups of the population (Steptoe *et al*., 2002; Zizza *et al*., 2001; Li *et al*., 2000). A significant association between the place of residence and the dietary status of the students was found in our study. The students who resided in the dormitory had less regular and worse dietary habits rather than the non-dormitory students. Non-dormitory students consume more fresh fruit, vegetables and dairy products compare to the dormitory students. It may be postulated that since most of the non-dormitory students live with their parents or families, a few of them have the dietary problems similar to the dormitory students. For instance, hard work and fatigue make the students become unwilling for cooking which in turns make them eat the junk foods and snacks.

The response rate of 37.5% was lower than desired. It was, however, comparable to that achieved by other studies of medical school students with a broad focus and with objectives similar to those of the present study (Ferry *et al*., 1999; Richmond *et al*., 1998). We assumed that the response rate achieved in the present study is acceptable. Furthermore, the inferences that can be drawn from this study are limited by the cross-sectional design and by the use of self-reported questionnaires. Participants may not be reliable in the reports of their behaviors, although it is unlikely that any biases will have changed over time. Some of the respondents may express themselves considering the acceptable culture and attitudes in the society. Since, our study was a cross sectional design and the target population was the medical students, it is not probable to generalize the results to the students of other fields of study at the university. Thus, it seems essential to design and perform a study on a larger population involving all the university students. Nonetheless, the study indicates that the attitudes and behaviors of this group of the young population are not toward healthier lifestyles and that persistent efforts are required to establish favorable health habits in youth.

CONCLUSION

This study demonstrated that unhealthy behaviors are increasing among the Iranian medical students; however Iranian medical students' unhealthy habits are lesser than those of university students assessed in America and European countries.

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