How healthy are male health sciences students at the Imam Abdulrahman Bin Faisal University?

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Categories: Medical Education (General), Students/Trainees

Abstract

Objectives: This study aimed to collect information on the personal health status of health sciences students in Imam Abdulrahman Bin Faisal University. It also aimed to investigate the relationships between levels of physical activity and other behaviours as well as specific health indicators in students attending college.

Methods: A convenience sample of 147 college students, ages 18 to 24 years, participated in this research study at Imam Abdulrahman Bin Faisal University. The data were obtained through interview questionnaire and trained investigators collected weight, height, blood pressure and blood sugar measurements.

Results: Forty-five percent of the students were either overweight or obese (21.8% and 23.1%) while 17.0% of the students were current smokers and 7.5% of them were ex-smokers. The majority of the students (91.8%) had fast food (hamburger, French fries, and soft drink) and out of these 62.9% had it three times or more weekly. Furthermore, 35% or more of the students did not have breakfast or drink milk or have vegetables on a daily basis. Also, 22.4% of the students were inactive. Ten percent of the participants were hypertensive while 1.4% had impaired random blood sugar with increased risk for diabetes mellitus. All of these students were unaware that they had hypertension or high random blood sugar. There was a significant statistical relationship between living in-campus at university and frequency of consumption of fast food (p = 0.003).

Conclusion: This study shows that there were high rates of risky lifestyles, namely, obesity, smoking, unhealthy diet, and inactivity among health sciences students, while some have health issues such as hypertension and high risk of diabetes.

Keywords: health, sciences, students
Introduction

Maintaining a good health status remains a challenge, particularly among workers in the medical field. Students in the medical field are equally confronted with the responsibility of coping with the challenges. Unhealthy lifestyles can affect students’ performance in school as indicated by their academic performance and further have negative impact on their health in future (Ochieng, 2006; Yeh et al, 2005; Chalmers et al, 2002).

Studying at the medical science schools offers opportunities toward a healthy lifestyle. However, scientific studies have shown that students at these school have difficulty maintaining a healthy lifestyle, which affects their health in the long run (Dittmar et al, 1989; Townsend, 2001).

There is a significant number of physicians that are obese, smokers, inactive, having unhealthy diet and mental health problems, which clearly reflect their individual lifestyle choices. Physicians are an important human resource in any country and also should set a good example in being healthy for their patients. Therefore, modification of lifestyle among physicians should start as soon as they start their training in medical college (Frank, 2004; Frank et al, 2007; Frank et al 2005; Frank, 2008; Frank et al, 2006; Spencer et al, 2006).

The objective of this study is to collect information on the personal health status of health sciences students in Imam Abdulrahman Bin Faisal University. It is also to investigate the relationships between levels of physical activity and other behaviors as well as specific health indicators in students attending college.

Methods

Following approval by the Research Ethics Committee at Imam Abdulrahman Bin Faisal University, a convenience sampling technique was employed in selecting the sample from the targeted students. The researchers explained the study and obtained informed consent from the students. The investigator personally filled out the questionnaires so that the true responses could be obtained with no missing responses. The participants were assured of anonymity (no name was required to complete the questionnaire) and confidentiality of information. The researchers use a validated questionnaire published by the world health questionnaire (WHO, 2013). Questions included demographic data, assessment of nutrition, smoking, exercise, and accommodation.

Blood pressure (BP) was measured by CASMED 740, CAS Medical Systems Inc., Branford, CT 06405, USA. Hypertension was defined as systolic blood pressure more than 140 mm Hg and or diastolic blood pressure more than 90 mm Hg (Hypertension classification, 2016). If the BP was high, the student was asked to rest for 10 minutes then re-measured and the second value recorded as the final one.

The weight in kg and height in cm of all participants were recorded using Fazzini srl weighing scale with height road, Padana Superiore, 317 - 20090 Vimodrone (MI), Italy. Random blood sugar was analyzed through finger prick using One Touch Select, Johnson & Johnson Building, Dubai Healthcare City, Dubai, U.A.E. The diagnosis of increased risk for diabetes was based on two hour post-prandial of more than 140 mg/dl (American Diabetes Association, 2011).

The diagnosis of obesity in our study sample was obtained by the Body Mass Index (BMI) and was
calculated as follows: BMI = weight in kg/height in meters^2, normal value for males = BMI <29.9 (non-obese) (WHO 2017).

All trained three medical students interviewed the participants and collected the data (weight, height, blood pressure and blood sugar).

Data was compiled, sorted, edited, classified and coded into the coding sheet of SPSS 20.0 (version) and Microsoft Excel 2010. The statistical tests used included Student t-test, Chi-Square, and regression analysis. A P-value of less than 0.05 was taken as a level of statistical significance.

**Results**

One hundred and forty-seven students from health sciences colleges participated in the study. First year (n= 42; 28.6%), second year (n= 40; 27.2%), third year (n=32; 21.8%), fourth or more year (n=33; 22.4%). Table 1 displays the demographic characteristics of the students. All respondents were males, all except one were Saudi and their age ranged from 18 to 24 with average of 20.45 and a standard deviation of 1.35. The majority of the students were in the first year of training (28.6%) followed by 27.2% in their second year of training.

Table 2 shows that 45% of the students were either overweight or obese (21.8% and 23.1%) while 17.0% of the students were current smokers and 7.5% of them were ex-smokers. The majority of the students 91.8% had fast food (hamburger, French fries, and soft drink) and out of these 62.9% had it three times or more weekly. Furthermore, 35% or more of the students did not have breakfast or drink milk or have vegetables on a daily basis (Table 2). Also, 22.4% of the students were inactive.

Table 2 shows that 10% of the participants were hypertensive while 1.4% had impaired random blood sugar with increased risk for diabetes mellitus. All of these students were unaware that they had hypertension or high random blood sugar. They were instructed to report to the university hospital for further investigations and management.

No significant statistical relationship was found between level of class at the health science colleges and the variables studied as we assumed that fourth or more year students might exhibit unhealthy lifestyles because of the increased stress of health sciences schools. On the other hand, there was a significant statistical relationship between living in-campus at university and frequency of consuming fast food (p = 0.003). This means that living alone in-campus at university is a risk factor for having more frequent fast food.

**Discussion**

This study shows that there were high rates of risky lifestyles, namely, obesity, smoking, unhealthy diet, and inactivity among health sciences students, while some have health issues such as hypertension and high risk of diabetes. Other studies reported similar health concerns among medical students as they engaged in unsafe health behaviors like smoking, physical inactivity, and consumption of unhealthy food (Carter et al, 2003; Staib et al, 2006; Steptoe et al, 2002; Clement et al, 2004).

It was reported that the decrease in wellbeing of medical students is avoidable and in the meantime as meeting critical learning goals. Furthermore, these students should serve as role models for the general population.

Life in medical college is a transitional period and should serve as an opportunity to encourage the students to adopt a healthy lifestyle. The core medical curriculum has little on self-care learning for
medical students. Incorporation of health promotion in health sciences curriculum can lead to lifestyle changes among these students (Ziccardi, 2004). Medical curriculum covers the concepts of health promotion in many courses. Despite that, medical students may not get any benefit from them in their own life, whereas enhancing curriculum that focuses on personal health promotion concepts will improve students’ awareness of practicing a healthy lifestyle. This can ultimately lead to better health outcomes of the students as well as their clients. Intervention and maintenance of the health of medical practitioners should start as soon as they start their training in medical school. The findings of this study highlight the importance of the integration of concepts about healthy lifestyle within the medical curriculum. The educational initiative was effective in improving all health behaviors of medical students over the long term, which raises the need for early intervention. Medical students who demonstrated higher levels of benefit from the intervention about appropriate lifestyle were more likely to have more positive health behaviors (Hassed et al, 2009; Al-Kandari et al, 2007; Belgüzar 2015). Most health and lifestyle habits are acquired early, persist in life, and are difficult to change. It is reported that physicians generally have difficulty maintaining a healthy lifestyle and good health practices (Robiner et al, 2013; Nassar and Shaheen, 2014). Therefore, it is recommended that the students keep track of their activities through the use of a daily diary for more accurate reporting. As with other cross-sectional studies, this study is susceptible to survivor bias because it assesses prevalence rather than incident cases and it did not take into account students who have left the health sciences college. It is also likely that all the lifestyle activities are subject to reporting bias, as the information in this regard were collected by means of questionnaire. The total number of students included in this study was 147, a particularly small number in each class, and hence the lack of statistical difference in the analysis may be explained by inadequate sample size. Despite these limitations, it is highly likely that the findings of this study are close to the truth and many of the identified health issues are amenable to educational interventions that fit within the medical curriculum.

Tables

Table 1: Demographic characteristics of the students
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Description</th>
<th>Proportion (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>0</td>
</tr>
<tr>
<td>Nationality</td>
<td>Saudi</td>
<td>99.3</td>
</tr>
<tr>
<td></td>
<td>Non-Saudi</td>
<td>0.7</td>
</tr>
<tr>
<td>Marital status</td>
<td>single</td>
<td>98.0</td>
</tr>
<tr>
<td></td>
<td>married</td>
<td>2.0</td>
</tr>
<tr>
<td>Level of class</td>
<td>First year</td>
<td>28.6</td>
</tr>
<tr>
<td></td>
<td>Second year</td>
<td>27.2</td>
</tr>
<tr>
<td></td>
<td>Third year</td>
<td>21.8</td>
</tr>
<tr>
<td></td>
<td>Fourth or more year</td>
<td>22.4</td>
</tr>
<tr>
<td>Accommodation</td>
<td>University in-campus (alone)</td>
<td>23.1</td>
</tr>
<tr>
<td></td>
<td>University out-campus (with family)</td>
<td>76.9</td>
</tr>
</tbody>
</table>

Table 2: Lifestyles characteristics and health indicators of the students
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Description</th>
<th>Proportion (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body Mass Index (BMI)</td>
<td>Underweight &lt; 18.5</td>
<td>8.2</td>
</tr>
<tr>
<td></td>
<td>Healthy weight 18.5-24.9</td>
<td>46.9</td>
</tr>
<tr>
<td></td>
<td>Overweight 25-29.9</td>
<td>21.8</td>
</tr>
<tr>
<td></td>
<td>Obese 30</td>
<td>23.1</td>
</tr>
<tr>
<td>Smoking status</td>
<td>Current</td>
<td>17.0</td>
</tr>
<tr>
<td></td>
<td>Ex-smoker</td>
<td>7.5</td>
</tr>
<tr>
<td></td>
<td>Non-smoker</td>
<td>75.5</td>
</tr>
<tr>
<td>Diet</td>
<td>I frequently had fast food</td>
<td>91.8</td>
</tr>
<tr>
<td></td>
<td>I had breakfast every day</td>
<td>57.1</td>
</tr>
<tr>
<td></td>
<td>I drank milk every day</td>
<td>63.0</td>
</tr>
<tr>
<td></td>
<td>I ate vegetables daily</td>
<td>35.6</td>
</tr>
<tr>
<td>Exercise</td>
<td>I never had exercise</td>
<td>22.4</td>
</tr>
</tbody>
</table>
Health status remains challenging, particularly to workers in the medical field. Therefore, students in medical fields are confronted with the responsibility of coping with these challenges. Unhealthy lifestyles can affect students’ performance in school as indicated by their academic performance and can have a negative impact on their future health. Therefore, modification of lifestyle among physicians should start as soon as they start their training in medical college. It is hoped that this paper contributes to the medical literature in order to modify curriculum of health education.

**Take Home Messages**

Health status remains challenging, particularly to workers in the medical field. Therefore, students in medical fields are confronted with the responsibility of coping with these challenges. Unhealthy lifestyles can affect students’ performance in school as indicated by their academic performance and can have a negative impact on their future health. Therefore, modification of lifestyle among physicians should start as soon as they start their training in medical college. It is hoped that this paper contributes to the medical literature in order to modify curriculum of health education.

<table>
<thead>
<tr>
<th>Personal health problem</th>
<th>I have/had no illness</th>
<th>0.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood pressure in mm Hg</td>
<td>SBP* &gt; 140</td>
<td>10.2</td>
</tr>
<tr>
<td></td>
<td>DBP** &gt; 90</td>
<td>10.9</td>
</tr>
<tr>
<td>Random Blood sugar</td>
<td>&gt;140 mg/dl</td>
<td>1.4</td>
</tr>
</tbody>
</table>

SBP* = systolic blood pressure; DBP** = diastolic blood pressure

**Notes On Contributors**

**Dr. Sultan Al-Otaibi:** Study design, literature review, writing manuscript.  
**Mr. Abdullah E. Almutahhar, Mr. Taha B. Aljishi, Mr. Hussain S. Aljawad:** Collection of data and literature review.  
**Dr. Abdulaziz M. Sebiany:** Manuscript review.

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Appendices

Declaration of Interest

The author has declared that there are no conflicts of interest.