Lifestyle diseases and associated risk behaviours among medical students in Saudi Arabia

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Abstract

Background: Lifestyle-related risk factors contribute to more than two thirds of Non-Communicable Diseases. They are responsible for the development of various metabolic diseases such as hypertension, diabetes and obesity. Medical students are exposed to various lifestyle related disease risk factors.

Objectives: To identify lifestyle diseases and associated risk behaviors among medical students, to find the association between the risk behaviors and gender of the student.

Materials and Methods: A cross sectional study was conducted at Unaizah College of Medicine. All medical students were included in our study. A self-administered questionnaire was completed by all students. Written consent was obtained. The data were collected and analyzed using SPSS.

Results: A total of 279 (56.0%) out of 507 medical students participated in the study of which 44.1% were male and 55.9% female. 66.7 % of medical students were not doing daily exercise; 74.2% of them were watching TV and computer and 53.4 % were skipping breakfast. On the other hand, 24.7 % of students never eat fruits daily, 15.1% are smokers and 72.0% have stressors with no significant difference between males and females ($P < 0.05$). Only 8.2% of students eat fast food every day and 71% of them are sleeping less than 8 hours per day with more significance among males than females ($P<0.05$).

Conclusion: Unhealthy lifestyle disease risk behavior is prevalent among medical students. There is a need to undertake a regular health education program to change students' health behavior and students should be motivated to adopt healthy lifestyle practices.

Key words: lifestyle disease, Risk behavior, Nutrition, Physical activity, Habits.

Introduction

Lifestyle diseases especially overweight and obesity are among the most neglected diseases which are continually increasing in the world, and affect all ages, sexes, and ethnicities. Lifestyle disease is classified as the fifth leading cause of mortality all over the world (1,2). It causes potent risk factors for cardiovascular disease and type 2 diabetes and is considered as the major cause of premature deaths (3). Obesity is defined as abnormal or excessive fat accumulation that may impair health. The body mass index (BMI) is a simple index of weight for height and is commonly used to classify underweight, overweight and obesity in adults. It is defined as the weight in kilograms divided by the square of the height in meters (kg/m2). A person with a BMI of 25 or more is considered by WHO to be overweight, while obesity is defined as having a BMI of 30 or more (4). In 2016 a study was conducted as a national survey to examine obesity and its associated factors in KSA; and in the process, interviewed 10,735 individuals aged 15 years and older. The research collected data regarding physical activities, diet, health-related behaviors and habits, socio-demographics characteristics, anthropometric measurements, use and access to healthcare, and chronic diseases of the respondents using computer assisted personal interviews. The results revealed that 28.7% of the total respondents were obese, with a BMI greater than 30 kg/m2, which was more prevalent among women (33.5%) than men (24.1%) (5).\5 Another study discussed current trends and future projections of adult obesity prevalence. The research forecasts that the overall obesity will increase to 41% in men and 78% in women by 2022 in Saudi Arabia (6).

Medical education is stressful throughout the course of studying and training. The amount of material to be absorbed, living far away from family, social isolation, pressure of examinations, all can be anticipated to bring psychological stress (7). However, stress will remain part and parcel of the life of every medical student, which cannot be modified at college level. Other modifiable factors such as increased fast food consumption, increased soft drinks, watching television and playing games on the computer and lack of outdoor games are more important from the prevention point of view 8 College can play a significant role in encouraging healthy behavior in students.

On the other hand, chronic stress may also trigger physiological processes which lead to weight loss, (9) in particular, among individuals for whom chronic work stress is associated with suppressed appetite and increased physical activity (10). Stress may contribute to changes in dietary behaviors that lead to weight change, with various effects related to sex, (11,12) baseline body mass index (13) or cortisol reactivity in response to stress (14,15). These factors may cause some people to gain more weight under stressful circumstances, while others may even lose weight when stressed (16, 17). All these factors do not contribute positively to the development of healthy lifestyles. Research related to these risk factors among medical students is essential, considering their role as future physicians and as a role model in public health intervention programs (18)

There are few studies on lifestyle diseases risk behavior among medical college students in Saudi Arabia. Therefore, this study was undertaken to identify lifestyle diseases and associated risk behaviors among students in Unaizah College of Medicine to find out the association between life style diseases and risk behaviors among students in a medical college. We also aimed to discover the association between the risk behaviors and gender of the students in medical college.

Material and methods

Study design:
Quantitative observational Cross sectional study was conducted through the academic year 2017-2018.

Sampling technique and size:
The Study was conducted in Unaizah College of Medicine campus at Qassim University. All medical students (male and female) from the first year Premed2 to the final year MD4 were included in our study as a representative sample of all medical students in the Kingdom of Saudi Arabia. We excluded any student who refused to participate in our study.

Methods of Data collection:
A self-administered questionnaire was completed by all students at Unaizah College of Medicine which included personal data of student, questions related to dietary behaviors, physical behaviors, smoking behaviors, stressors; then BMI was measured for all participants, and data entered and analyzed using computer program (SPSS version 24).

Statistical analysis:
The data was entered, organized, tabulated and analyzed using the standard computer program SPSS version 24.0. Qualitative data was expressed as frequency and percent. Chi square (x2) was used to assess the relationship between the qualitative variable and odd ratio was estimated for detection of risk factors with the significant level set at p-value < 0.05.

Results

A total of 279 (56.0 %) out of 507 medical students participated in the study of which 44.0% were male and 56.0% female. Table 1 shows that the majority of students were aged between 22 and 24 years. Most of them (79.6%) wer living with both father and mother. The majority of students were in the academic years MD1 and MD3. On the other hand most mothers were educated in upper secondary schools (60.2%) and fathers haduniversity education (45.2%). About (35.5%) of students had a family income more than 20000 SR.

Table 2 reveals that 66.3 % of medical students are not doing regular daily exercise, 74.2% of them watch TV and computers and 53.4 % are skipping breakfast. On the other hand 24.7 % of students are never eating fruits daily, 15.1 % are smokers and 72.0% of students have stressors. Only 8.2% of students are eating fast food every day and 18.6% are never eating vegetables daily and 71% of them are sleeping less than 8 hours per day.

Table 3 shows that there is no significant difference between male and female students regarding doing regular daily exercise, watching TV and computer and skipping breakfast, never eating fruits daily, smoking and having stressors ($p > 0.05$). There is a significant difference among males more than females regarding eating fast food every day, never eating vegetables daily and sleeping less than 8 hours per day

Figure 1 shows that the percentage of female students is higher than males (56%) and Figure 2 shows that the majority of students are eating vegetables and fruits daily (81.4 & 75.3 respectively) and most of them are sleeping less than 8 hours and have stressors (71.0% & 72.0% respectively) but the minority are eating fast foods (8.2%).

Table 1: Distribution of students regarding socio-demographic data

Socio-demographic data	No	Percent
Age per years		
- 18-<20	2	0.7
- 20-<22	127	45.5
- 22-<24	113	40.5
- >24	37	13.3
Academic year		
- Premed	43	15.4
- MD1	70	25.1
- MD2	61	21.9
- MD3	69	24.7
- MD4	36	12.9
Living with parents:		
- Both mother & father	222	79.6
- Father only	4	1.4
- Mother only	29	10.4
- Neither	24	8.6
Mother education:		
- No formal education	15	5.4
- Primary education	40	14.3
- Lower secondary education	44	15.8
- Upper secondary education	168	60.2
- University education	12	4.3
Father education:		
- No formal education	13	4.7
- Primary education	31	11.1
- Lower secondary education	25	9.0
- Upper secondary education	84	30.1
- University education	126	45.2
Family income per SR.		
- < 7000 SR	21	7.5
- 7000- 12000 SR	81	29.0
- 12500- 17000 SR	43	15.4
- 17500- 20000 SR	36	12.9
- >20000 SR	98	35.1
Total	279	100.0

Table 2: Frequency of behaviors among students

Behaviors		Frequency	Percent
Doing exercise	Yes	94	33.7
	No	185	66.3
Watching TV/Computer >2 hours daily	Yes	72	25.8
	No	207	74.2
Skipping breakfast	Yes	149	53.4
	No	130	46.6
Eating fruits daily	Yes	210	75.3
	No	69	24.7
Eating vegetables daily	Yes	227	81.4
	No	52	18.6
Eating fast foods	Yes	23	8.2
	No	256	91.8
Smoking	Yes	42	15.1
	No	137	84.9
Having stressors	Yes	201	72.0
	No	78	28.0
Sleeping <8 hours daily	Yes	198	71.0
	No	81	29.0
Total		279	100.0

Table 3: Association between sex and lifestyle disease risk behaviors

	Risk Behaviors	Males (%) N= 123	Females (%) N= 156	Chi square Value	P value
1	Inadequate exercise regularly	75(61.0)	110(70.5)	2.80	0.094
2	>2 hours watching TV / Computer	97(78.9)	110(70.5)	2.50	0.114
3	Skipping breakfast	70(56.9)	79(50.6)	1.09	0.29
4	Never eating fruits daily	37(30.1)	32(20.5)	3.38	0.07
5	Never eating vegetables daily	36(29.3)	16(10.3)	16.34	0.00*
6	Eating fast foods daily	16(13.0)	7(4.5)	6.60	0.01*
7	Smoking daily	21(17.1)	21(13.5)	0.702	0.40
8	Having stressors in your life	92(74.8)	109(69.9)	0.828	0.36
9	Sleeping < 8 hours daily	96(78.0)	102(65.4)	5.35	0.02*

Figure 1: Frequency of male and female students

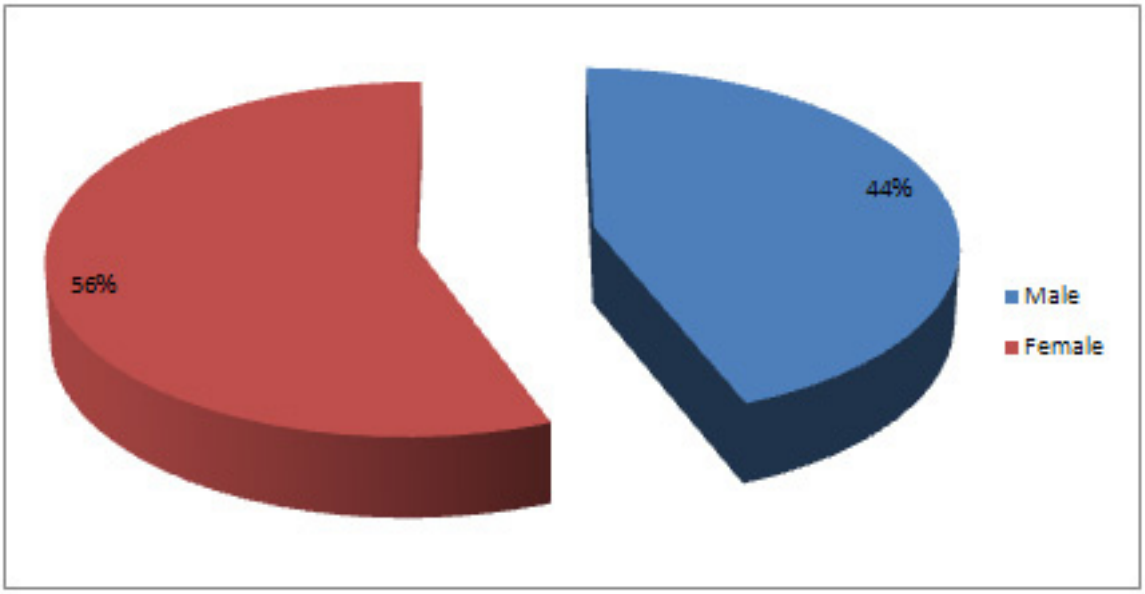
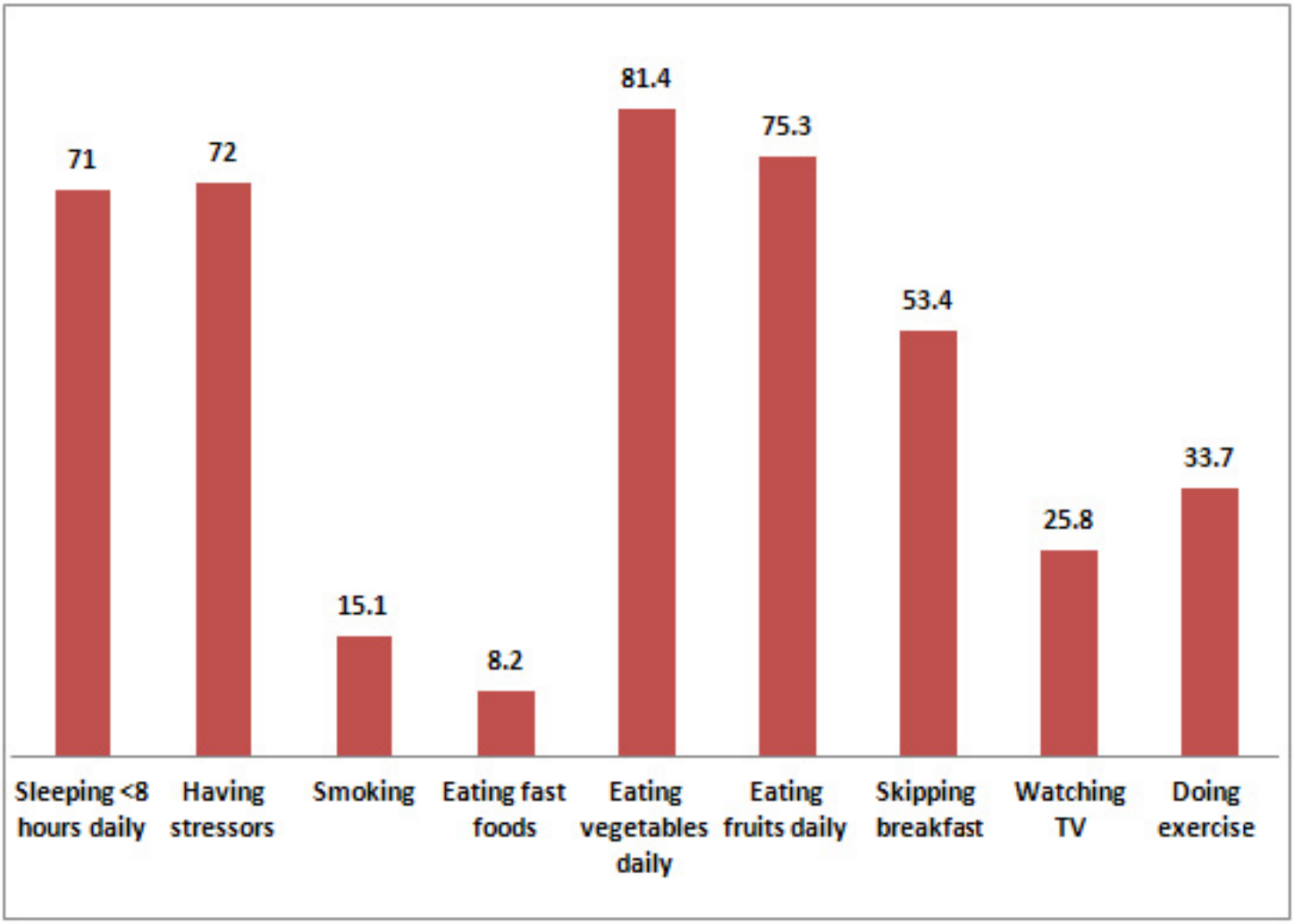


Figure 2: Frequency of behaviors among students



Discussion

This study was conducted to identify lifestyle diseases and associated risk behaviors among medical students, to find the association between the risk behaviors and gender of the student. A total of 279 (56.0 %) out of 507 medical students participated in the study of which 44.0% were male and 56.0% female. The majority of students are aged between 22 and 24 years. Most of them (79.6%) live with both father and mother. The majority of students are in the academic years MD1 and MD3. Most of their mothers are educated in upper secondary schools (60.2%) and fathers have university education (45.2%). Also about (35.5%) of students have a family income more than 20000 SR.

This study showed (in Table 1) that 66.7 % of medical students are not doing daily regular exercise, and this is due to the culture of our country where most people depends on cars for their daily activities and this result comes into line with other studies done in India (Meenal, 2016.) (20) and (Rustagi et al, 2011) (19) . Also the present study revealed that 74.2% of students are watching TV and computer and this is greater than the results in another study conducted in India (Meenal, 2016)(20). and (Paul B,et al 2015) (21). Their results showed less than our study and this may be due to our students having a more sedentary life. On the other hand our study showed that 53.4 % of the students are skipping breakfast and this comes in accordance with another study done India that showed that skipping breakfast is common. (Meenal, 2016) (20).

The present study revealed that 24.7 % of students are never eating fruits daily, and this is in concordance with another study conducted in Delhi which showed nearly the same results (Rustagi et al, 2011) (19) . Also our study showed that only 15.1 % of the students are smokers and this agrees with another study which reported the same results. The majority of the students 72.0% were having stressors with no significant difference between males and females ($p > 0.05$). Only 8.2% of students in our study are eating fast food every day and this is less than another study conducted by (Rustagi et al, 2011) (19) that reported a high prevalence of eating fast food.

The present study revealed that only 18.6% of students are never eating vegetables daily and this agrees with the study conducted by (Paul B, et al 2015) (21) which showed the same results. On the other hand this study showed that 71% of the students are sleeping less than 8 hours per day which is significant among males than females and this agrees with astudy conducted in Egypt which revealed the same results (Abdolfotoh MA, et alt ,2007) (22) and disagrees with the study conducted by (Meenal, 2016) (20_. which reported less results.

Limitation:
There were no limitations for this study

Conclusion

Unhealthy lifestyle disease risk behavior is prevalent among medical students. There is need for a regular health education program to change students' health behavior and students should be motivated to adapt healthy lifestyle practices. There was no significant difference between genders in most risk behaviors.

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Conflicts of interest:
There are no conflicts of interest

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