Original article

Impact of Modern Lifestyle on the Health of Medical Students at Libyan International Medical University

Amina Elsaid[1]* , Nadia Eldarogi[2] , Mawada Al Subaihi[3] , Yahya Al Subaihi[3]

[1]Department of Community Medicine, Faculty of Medicine, Libyan International Medical University, Benghazi, Libya
[2]Department of Family and Community Medicine, Faculty of Medicine, University of Benghazi, Libya
[3]Faculty of Medicine, Libyan International Medical University, Benghazi, Libya
Corresponding Email. Amina.elsaid@limu.edu.ly

Abstract
A healthy lifestyle is a way of living that reduces the chances of experiencing illness. Lifestyle is an essential factor in health. Unhealthy behaviour can lead to illness, disability, and even death. This study was conducted to determine the impact of modern lifestyle on medical student health in the Libyan International Medical University. A cross-sectional study was carried out among undergraduate medical students in Libyan International Medical University, Benghazi, Libya, for three months (May, June and July in 2023), including students of all ages, both sexes, and all academic years. A total of 1500 students were enrolled in the university. About 71.3% of students had insomnia, 49% had an eating disorder, and 21% had a panic attack. A significant difference between genders, 70% of students who had insomnia and sleeping disorders, panic attacks were female, and between academic years, the fourth year had a higher percentage of insomnia. There was a statistical association with insomnia among the students who didn't eat fruits and vegetables. While students who do not exercise have panic attacks during their academic years. Students who had skipped breakfast had more distractions and a lack of focus during academic years. Some modern life behaviors like skipping breakfast, not eating fruits and vegetables, eating fast food, not doing exercise, and not sleeping well harm the health of medical students.
Key words: Modern Lifestyle, Medical Students, LIMU, Benghazi.

Introduction

The World Health Organization (WHO) defines a healthy lifestyle as a way of living that reduces the risk of being severely ill, dying at an early age, and helps you enjoy more aspects of your life" [1]. An unhealthy lifestyle refers to a pattern of behaviors or choices that have negative effects on an individual's well-being and overall health. These include skipping breakfast, consuming meals high in unhealthy ingredients, not getting enough sleep, and not being physically active enough. The modern lifestyle has changed the way we live, work, and interact with each other. The technological advances and the fast-paced daily routine have had an impact on our health, and medical students are not an exception. They are expected to undergo extensive training and rigorous schedules to prepare them for a healthcare career. However, the challenges of modern lifestyle may have an impact on their well-being and health [2], as it plays a very significant role in determining the risk of developing a lifestyle or chronic disease. However, it is very much possible to reduce one's risk of developing a lifestyle disease by considering healthy habits and good behavioural choices [3].

Poor eating habits are major contributors to the world's current health issues. An inadequate diet has been linked to numerous chronic illnesses, such as heart disease, hypertension, dental problems, nutritional deficiencies, and even certain types of cancer, diabetes, and obesity. In recent years, our human diet has undergone dramatic transformations. These changes have brought about an increase in sugar and salt consumption, elevated levels of LDL, and a decline in fiber, macro and micro nutrients, and water intake [4]. A key factor in achieving a well-rounded lifestyle is having a thorough understanding of our diet and its impact. A nutritious and balanced diet comprises essential elements like fruits, vegetables, proteins, and low levels of salt and sugar, leading to a healthy weight and an adequate supply of nutrients and calories for optimal well-being. Not only will this promote a longer lifespan, but it will also enhance our enjoyment of life. People who maintain an active lifestyle not only have physical fitness, but they also experience improved memory and focus due to the increased supply of oxygen to the brain [5].

Having quality sleep is crucial for maintaining a healthy life. Sleep disorders not only impact our psychological well-being but also have significant effects on our social, economic, and overall health. Neglecting our lifestyle habits can have a detrimental effect on our sleep, which directly affects both our mental and physical health [6]. A study done in All Saints University, School of Medicine in Dominica to identify the influence of modern lifestyle on the health of medical students resulted in there is need for individuals to pay attention to their daily practices as modern lifestyle can harm quality of life [1]. Research at the University of Baroda, Gujarat, India, healthy food and physical activity are needed in every person's daily routine for living a good quality of life [7]. Other study done in India, result in: Poor diet, addiction and sleep deprivation are some of the common elements of the modern lifestyle that are having a significant impact on the health of people in society [8], lifestyle might negatively affect one's standard of living and up

to our knowledge no research done in Libyan international medical university (LIMU) so our aim was to determining the impact of modern lifestyle on medical student health in LIMU.

Methodology

A descriptive cross-sectional study was carried out among undergraduate medical students in LIMU, Benghazi, Libya, for three months (May, June, and July in 2023), including students of all ages, both sexes, and all academic years. A total of 1500 students were enrolled in the university. The sample size was calculated by using the Rao soft sample size calculator by presuming a 95% confidence level, 5% margin of error, and about 300 students were included. Data was collected by a self-administered questionnaire that consisted of three parts: Part one: demographic characteristics, including age, gender, and academic year. Part two: lifestyle factors questions about unhealthy diet, physical exercise, and sleep hours. Part three: health status includes health problems during academic years (insomnia, eating disorders [like polyphagia or anorexia due to stress], or panic attacks and distraction with lack of focus). A pilot study was conducted to assess the completeness, reliability, and validity of the questionnaire before the study.

Data was analysed by using (Statistical Package for the Social Sciences (SPSS)version 29 [9]. Descriptive statistics were employed to summarize the demographic characteristics and key variables, providing an overview of the sample distribution and central tendencies. For inferential statistics, an appropriate statistical test was chosen to evaluate hypotheses, maintaining a significance level of 5% for Type I error. Ethical approval was obtained from the Libyan International University Ethics Committee, and verbal consent was acquired from the students.

Results

The majority of students were female 66.3% while males were 33.7%, the age range between 18 to 30 with majority of participant falling between 18-22 about 64.7% while ages range between 23-27 and 28-30 were 29.7% and 5.7% respectively, from these students 34.3% were from the first year fallowed with 20.7% from the fourth year, 18.3 from the second year, 17.0 from fifth year while only 9.7 from the third year as shown in table 1.

Table 1. Distribution of students according to their sociodemographic characteristics

Sociodemographic characteristics		Number	Percent %
Gender	Female	199	66.3
	Male	101	33.7
Age group	18 – 22	194	64.7
	23 – 27	89	29.7
	28 - 30	17	5.7
Academic year	1st	103	34.3
	2nd	55	18.3
	3rd	29	9.7
	4th	62	20.7
	5th	51	17.0

Table 2 illustrates that more than half (60%) of 300 students in LIMU skip breakfast, (18.7%) do not eat fruits and vegetables, and (54%) always eat fast food. Whereas, about 42.7% of students do exercise. About the sleep hours, approximately 50.7% were sleeping from 7-9 hours, while 38% and 11.3% were sleeping from 4-6 and 10-12 hours, respectively.

Table 2. Distribution of medical students according to their lifestyle

Lifestyle questions		Number	Percent
Do you eat breakfast every morning?	Yes	120	40
	No	180	60
Do you eat fruit and vegetables?	Yes	244	81.3
	No	56	18.7
Do you always eat fast food?	Yes	162	54
	No	138	46
Do you do physical exercise?	Yes	128	42.7
	No	172	57.3
How many hours do you sleep?	4-6	114	38.0
	7-9	152	50.7
	10-12	34	11.3

The health problems that the medical students had because of their lifestyle were shown in table 3**,** in which most of them (71.3%) had insomnia during academic years, 49. % had eating disorder, 21% panic attack, and 71.3% distraction and lack of focus during academic years.

Table 3. The health problems among medical students due to their life style

Health problems among medical students		Number	Percent
Do you have insomnia during academic years?	Yes	214	71.3
	No	86	28.7
Do you have eating disorder during academic years?	Yes	147	49.0
	No	153	51.0
Do you have panic attacks during academic years?	Yes	63	21.0
	No	237	79.0
Do you have lack of focus during academic year	Yes	214	71.3
	No	86	28.7

Table 4 demonstrates the relationship between students' ages and their lifestyles. It found a significant association between age and the consumption of fruits and vegetables, with a significance level of 0.003, as well as between age and the number of hours of sleep, with a p-value of 0.004. However, there was no significant correlation between age and daily breakfast consumption, fast food intake, or physical exercise habits.

Table 4. The relationship between the age of students and their life style

Life style of students		Age of students			Level of significance
		18-22	23-27	28-30	
Do you eat breakfast every morning?	Yes	82	33	5	0.466
	No	112	56	12	
Do you eat fruit and vegetables?	Yes	157	78	9	**0.003**
	No	37	11	8	
Do you always eat fast food?	Yes	106	44	12	0.264
	No	88	45	5	
Do you do physical exercise?	Yes	84	41	3	0.091
	No	110	48	14	
How many hours do you sleep?	4-6	60	44	10	**0.004**
	7-9	106	41	5	
	10-12	28	5	2	

Table 5 illustrates the relationship between students' ages and health issues related to their lifestyles. It revealed that there was no significant connection between age and health problems such as insomnia, eating disorders, panic attacks, and difficulties with distraction and focus during the academic year.

Table 5: The relationship between the age of students and health problems due to their lifestyle

The health issues related to students' lifestyles		Age of students			Level of significance
		18-22	23-27	28-30	
Do you have insomnia during academic years?	Yes	133	67	14	0.298
	No	61	22	3	
Do you have an eating disorder during academic years?	Yes	94	45	8	0.934
	No	100	44	9	
Do you have panic attacks during academic years?	Yes	37	23	3	0.405
	No	157	66	14	
Do you have a lack of focus during the academic year	Yes	145	57	12	0.181
	No	49	32	5	

Table 6 revealed the relationship between students' gender and their lifestyles, indicating a significant association between gender and engagement in physical activity, with a p-value of 0.000.

Table 6. The relationship between the gender of students and their lifestyle

Lifestyle of students		Gender of students		Level of significance
		Male	Female	
Do you eat breakfast every morning?	Yes	48	72	0.058
	No	53	127	
Do you eat fruit and vegetables?	Yes	84	160	0.561
	No	17	39	
Do you always eat fast food?	Yes	57	105	0.546
	No	44	94	
Do you do physical exercise?	Yes	61	64	**0.000**
	No	40	132	
How many hours do you sleep?	4-6	38	76	0.368
	7-9	55	97	
	10-12	8	26	

Table 7 displays the association between students' gender and health issues related to their lifestyles. It found a significant relationship between gender and insomnia, eating disorders, and panic attacks, with p-values of 0.030, 0.005, and 0.001, respectively. However, no significant relationship was observed between gender and distraction or lack of focus during the academic year.

Table 7. The relationship between the gender of students and the health issues related to their lifestyles

The health issues related to students' lifestyles		Gender of students		Level of significance
		Male	Female	
Do you have insomnia during academic years?	Yes	64	150	**0.030**
	No	37	49	
Do you have an eating disorder during academic years?	Yes	38	109	**0.005**
	No	63	90	
Do you have panic attacks during academic years?	Yes	10	53	**0.001**
	No	91	146	
Do you have a lack of focus during the academic year	Yes	68	53	0.274
	No	33	104	

Table 8 displayed the relationship between students' academic years and their lifestyles, indicating that the academic year influenced the number of hours' students slept, as evidenced by a significance level of 0.002. Conversely, no significant relationship was found between academic year and other lifestyle factors.

Table 8. The relationship between the academic year and the lifestyle of the students:

Lifestyle of the students		Academic year of the students					Level of significance
		1st	2nd	3rd	4th	5th	
Do you eat breakfast every morning?	Yes	40	26	12	21	21	0.682
	No	63	29	17	41	30	
Do you eat fruit and vegetables?	Yes	80	48	23	53	40	0.516
	No	23	7	6	9	11	
Do you always eat fast food?	Yes	64	29	13	30	26	0.315
	No	39	26	16	32	25	
Do you do physical exercise?	Yes	46	28	11	20	23	0.305
	No	57	27	18	42	28	
How many hours do you sleep?	4-6	29	19	9	28	29	**0.002**
	7-9	55	32	14	29	22	
	10-12	19	4	6	5	0	

Table 9 indicated a significant relationship between students' academic years and insomnia and lack of focus, with significance levels of 0.01 and 0.030, respectively. However, no significant relationships were found between academic year and eating disorders or panic attacks.

Table 9. The relationship between the academic year of students and the health issues related to their lifestyle.

The health issues related to students' lifestyles		Academic year of the students					Level of significance
		1st	2nd	3rd	4th	5th	
Do you have insomnia during academic years?	Yes	77	32	18	53	34	**0.01**
	No	26	23	11	9	17	
Do you have an eating disorder during academic years?	Yes	47	23	15	36	26	0.433
	No	56	32	14	26	25	
Do you have panic attacks during academic years?	Yes	18	10	7	15	13	0.698
	No	85	45	22	47	38	
Do you have a lack of focus during the academic year	Yes	79	42	18	47	28	**0.030**
	No	24	13	11	15	23	

Discussion

This cross-sectional study aimed to determine the impact of modern lifestyle factors on the health of medical students at the Libyan International Medical University.

Breakfast is the most important meal of the day. A healthy breakfast is a way the body refills its energy so skipping the breakfast can lead to many health problem [10], the current study revealed that 60% of students skip the breakfast comparing to the study done in university of Dominica where 68.4% of students do [2] and study in Bahrain [11] 50% of the students did not consume breakfast daily. However, majority of Sudanese students, 85.5 %, consumed breakfast daily [12].

The findings reported that the students that skipping breakfast there were 76.7% of them had an insomnia, 56.1% had an eating disorder, and 22.8% had a panic attack during their academic years. The study revealed that the healthy diet includes eating more fruits and vegetables [13], our result reported that 18.7% do not eating more fruits and vegetables, while 35.5% of students in university of Dominica don't [2] However most of the students did not eat recommended daily fruit and vegetable among Jordanian college students [14] and 21.8 % of Sudanese students consumed vegetables and fruits [12].

This current study reported that among these students that not eat fruits and vegetables there were 68.4% had insomnia, 58.9% had an eating disorder, and 19.6% of them had a panic attack during their academic years. Another unhealthy diet is consumption of fast food which about 54% of the participant always eat fast-food, where only 11.8% of students in university of Dominica always order fast food [2], fast food was consumed significantly more for more than 3 days per week by females (44.2 %) than males (27.3 %). Females (42.9 %)

Our findings report that among these students who always eat fast food 72.2% had insomnia, 50% had an eating disorder, while 22% had a panic attack during their academic years [12].

Nowadays, people not only exercise less, but have fewer daily small activities, such as walking, running, chasing, etc. They are choosing to sit in front of a computer or a television set instead of participating in some form of physical activity. Excess exposure to the screen lights of our gadgets (phones, iPads, computers) has a damaging effect on cognitive and behavioral aspects of the brain, which leads to insomnia and sleeplessness [1]. From WHO stated that over 85% of the population worldwide does not exercise enough [15]. In our study, we found 57.3% of students in LIMU don't do exercise while 27.6% in Dominica don't [1], and out of these students that not doing exercise there were 72.7% had an insomnia, 52.8% had an eating disorder, while 27.3% had a panic attach during their academic years.

Disturbance in sleep is associated with decreased concentration and focus when performing daily activities [16]. In this study were found that sleep from 7-9 hours is 50.7% which more hours than in Dominica university only 34.2% of students do [2], and among these students that sleep from 7-9 hours there were 77.7% had an insomnia, 53.3% had an eating disorder, while 23.6% had a panic attach during their academic years.

Limitations of the study

There are not enough studies about the impact of lifestyle (unhealthy dietary habits, sedentary behaviors, and sleeping patterns) on insomnia, panic attacks, distraction, and lack of focus, to compare.

Conclusion and Recommendation

The study findings revealed that a high percentage of the students in LIMU had unhealthy dietary habits, sedentary behaviors, were slept 7-9 hours. The majority of the students had insomnia during the academic years. The majority of students experiencing insomnia, sleep disorders, and panic attacks were female, with most being fourth-year students; first-year students reported higher levels of distraction and lack of focus. Additionally, a statistical association was found between unhealthy dietary habits and insomnia among the students. Students exhibiting sedentary behaviors experienced health problems during their academic years. Therefore, it is strongly recommended to implement an intervention program aimed at promoting healthy dietary habits and lifestyle choices among university students. Incorporating a balanced diet, regular

physical activity, and improved sleep patterns are effective strategies to improve health outcomes in this population.

Conflicts of Interest
We declare no conflicts of interest.

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المستخلص

نمط الحياة الصحي هو أسلوب حياة يقلل من فرص الإصابة بالمرض. نمط الحياة عامل أساسي في الصحة. يمكن أن يؤدي السلوك غير الصحي إلى المرض والإعاقة وحتى الموت. أجريت هذه الدراسة لتحديد تأثير نمط الحياة الحديث على صحة طلاب الطب في الجامعة الطبية الدولية الليبية. أجريت دراسة مقطعية بين طلاب الطب الجامعي في الجامعة الطبية الدولية الليبية، بنغازي، ليبيا، لمدة ثلاثة أشهر (مايو ويونيو ويوليو في عام 2023) بما في ذلك الطلاب من جميع الأعمار والجنسين وجميع السنوات الدراسية. تم تسجيل ما مجموعه 1500 طالب في الجامعة. كان حوالي 71.3٪ من الطلاب يعانون من الأرق، و 49٪ يعانون من اضطراب في الأكل، و 21٪ يعانون من نوبة هلع. كان هناك فرق كبير بين الجنسين، 70٪ من الطلاب الذين يعانون من الأرق وا ضطرابات النوم ونوبات الهلع كانوا من الإناث، وبين السنوات الدراسية، كان لدى السنة الرابعة نسبة أعلى من الأرق. كان هناك ارتباط إحصائي بالأرق بين الطلاب الذين لم يتناولوا الفاكهة والخضروات. بينما يصاب الطلاب الذين لا يمارسون الرياضة بنوبات هلع خلال سنواتهم الدراسية، فإن الطلاب الذين تخطوا وجبة الإفطار كانوا أكثر عرضة للتشتت وقلة التركيز خلال سنواتهم الدراسية. بعض سلوكيات الحياة العصرية، مثل تخطي وجبة الإفطار، وعدم تناول الفاكهة والخضراوات، وتناول الوجبات السريعة، وعدم ممارسة الرياضة، وقلة النوم، تضر بصحة طلاب الطب.