Associations between Good Dietary Intake Habits and Sleep Quality with Academic Achievement among Inaya Medical College Students

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INTRODUCTION

All over the world, there are big numbers of students who register at the university or college education for example in the USA only about 20.2 million students by 2014 reflecting a 4.9 million increase since 2000 [1]. In the UK, there were 2.3 million university students in 2016, 17% higher than in 2000 [2], while in Australia, enrolments have increased from 700,000 to over 1.2 million students in the same period [3,4]. The incoming future success of college graduates in their careers, after the college years is associated with health and sleep quality and these all previous factors are significantly influenced by academic achievement at the university years [5]. So it is a point of interest to determine the factors influenced with higher and successful academic achievement. Dietary habits and sleep quality were influenced by many factors such as coffee intake times, sugar-containing food like dates, tea intake, vegetables, fruit intake, and fast foods. Dietary habits and sleep quality affect medical student physical, mental health, and working and thinking capacity [6].

In addition, healthy diet and high sleep time has been related and associated with excellent academic achievement [7], however, the unhealthy diet and poor sleep time have been related to poor academic achievement and so it influenced on the health, feelings, and wellbeing among the medical students [8].

In the current study, we examined the relationship between the dietary habits and sleep quality with academic performance among female medical students in INAYA medical college, Riyadh, Saudi Arabia by comparing the academic performance between students. This study aimed to improve lifestyle of the medical students by advising them to replace the fast food to healthy food and improving the sleep quality by increasing the sleep hours in the night.

SUBJECTS AND METHODS

Study design

This study based on academic performance was conducted at INAYA medical college, Riyadh, Saudi Arabia.

Subjects

This study aimed to compare the academic performance between the students in who scored from A+ (excellent) to D (pass) in the previous semesters, those with score F (fail) were excluded from the study. One hundred female medical students responded to the questionnaire, INAYA medical college was stratified as A+ Exceptional, A(excellent) B+(Superior) B (Very good), C+ (above average), C (Good), and D+ (high path), D (path) and F (fail). We arranged a meeting with the participated students and explained all questions to all students and also the research objectives and how to fill the written survey. We distributed the survey and participation was voluntary and unpaid. All the participants signed a written informed consent form.
Students were asked to fill the survey and answered questions about the dietary habits for 2 weeks before the study and also questions that measured the sleep quality of all participants. Data were collected at the beginning of the first semester 2018/2019 to avoid stress times before and during exams. Approval for the study was provided by the ethical committees of INAYA medical College, Riyadh, Saudi Arabia.

**Statistical analysis**

Data were analyzed by using statistical software (Graph pad prism version 7). Descriptive statistics were reported as means unpaired t-test was used for testing the significant difference between study groups. The results were considered statistically significant when p ≤ 0.05.

**RESULTS AND DISCUSSION**

Bad dietary habits and also poor sleep quality has been reported to be associated with poor academic performance [9], cardiovascular events, and metabolic syndromes. This study assessed the association between dietary habits and sleep quality with academic performance in INAYA medical college medical students. We found a significant relationship between academic achievements and dietary habits. One hundred medical students were enrolled in the study, and complete the written survey.

As shown in Figure 1, there is a significant relationship between dietary habits and academic achievement (p < 0.0001) between the medical students. As shown in Figure 1, there is a significant relationship between dietary habits and academic achievement (p < 0.0001) between the medical students. We found also as shown in Figure 2, there is a significant relationship between sleep quality and academic achievement (p < 0.0001) between students.

Unhealthy dietary habits and poor sleep quality affects the stability of the students through a lack of concentration and inability to work during the day [10] that affect academic performance.

In the current study, the percentage of students which use to eat unhealthy food is more than the percentage of students which use to eat healthy food (P = 0.047). Sleep duration ranged from 3 to 8 h with a mean of 7.00 ± 1.9 in the excellent group, and 6.30 ± 2.0 in the average student group and a significant difference was found between the two groups of medical students (P = 0.047).

Due to the growing concerns about the association of poor sleep quality with many physical and mental diseases, it is imperative to conduct additional research to examine potential causes and implement appropriate preventive measures and treatment when needed.

**CONCLUSION**

A strong association is evident between healthy food and good sleep quality with high and excellent academic performance. We recommended improving the dietary behavior and also sleeping time behavior among INAYA medical college students by providing health education on proper. Healthy food and better scheduling of lectures are highly recommended.

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**COMPETING INTERESTS**

The authors declare that they have no competing interests

**REFERENCES**

