CODEN [USA]: IAJPBB ISSN : 2349-7750

INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES
SJIF Impact Factor: 7.187

Available online at: http://www.iajps.com *Research Article*

THE DIETARY HABITS OF SAUDI MEDICAL STUDENTS, JEDDAH- A SURVEY STUDY

Dr. Manal Abdulaziz Murad[1], Dr. Hoda Jehad Abousada[2] ,Dr. Raghad Abdulaziz Althomali[3] , Dr. Abrehyeim Abdrabbo AlHezmei[3] , Dr. Reham Mohammed Fattah[3], Dr. Muhannad Abdulhamid Almalki[4] , Dr. Fahad Abdulkarim Alrumayan[5] , Dr. Yasser adel Khafaji[5] , Dr. Ahmed Alabid Qalam[5] , Dr. Shada Mohammed abyadh[5] , Dr. Alya khaled abdulbaqi[5] , Dr. Ohud Ali Alghamdi[5] , Dr. Abeer Mousa Alshuqayfi[5] , Dr. Mohammed Khalid Algarni[6]

[1] Associate professor of family medicine, Department of family & Community Medicine, Faculty of Medicine, King Abdulaziz University, Rabigh. maamurad@kau.edu.sa, [2] Obstetrics & Gynecology, Master SA, KAMC, Jeddah, KSA, [3] General Practitioner, MD, KSA., [4] MBBS, DFE Public Health Affaire Makkah Region, KSA, [5] Medical Intern, MBBS, KSA., [6] Pharmacist, ISNC, jeddah, KSA

Article Received: October 2022 **Accepted:** November 2022 **Published:** November 2022

Abstract:

Background: *College students' poor dietary habits are a big public health issue. As the economy and government of Saudi Arabia have improved quickly over the last several decades, so too have the eating habits of the Saudi people. The current study aimed to assess the dietary habits of Saudi Arabian medical students.*

Methods: *A descriptive, correlational cross-sectional design was employed for this study. The study was conducted at medical schools in Jeddah: [King Abdul Aziz University, King Saud University, Ibn Sina Private Medical College, Batarji Private Medical College, and Fakeeh Private Medical College]. The participants were selected during December 2022. Study participants were selected on two steps, stratified random sampling at the level of universities, to determine the required sample size from each college, then non-probability convenient sampling technique to collect the sample size from each college. Sample size was determined according to the total number of medical students in Jeddah with a confidence level of 95% and marginal error of 5%. Study instruments consisted of two domains. First is sociodemographic characteristics of medical students. Second is dietary pattern assessment.*

Results: *The study included 338 medical students from all academic levels. There were 195 male participants (57.7%) and 143 female participants (42.3%). The median age among study participants was 22 years. The most frequent age group was 18-22 years (n= 199, 58.9%). Dietary pattern of study participants was assessed through a series of questions about their weekly intake of certain groups of food. It was noticed that study participants had different dietary patterns. Female participants eat fast food more than males ($P<0.001$) while male participants eat fruits and vegetables more ($P<0.001$). No difference was found in physical activity. The median duration of physical activity per week was 3 hours.*

Conclusion: *Study results showed that study participants had different dietary patterns. Female participants eat fast food more than males while male participants eat fruits and vegetables more. No difference was found in physical activity.*

Corresponding author:
Dr. Hoda Jehad Abousada,
Obstetrics & Gynecology, Master SA, KAMC, Jeddah, KSA,

QR code

Please cite this article in press ***Hoda Jehad Abousada*** *et al,* ***The Dietary Habits Of Saudi Medical Students, Jeddah- A Survey Study.,*** *Indo Am. J. P. Sci, 2022; 09(11).*

INTRODUCTION:

College students' poor dietary habits are a big public health issue. As the economy and government of Saudi Arabia have improved quickly over the last several decades, so too have the eating habits of the Saudi people. Changes in lifestyle have affected individuals of all ages, but young people in particular. The Saudi population has been demonstrated to have a diet high in processed foods and meat and low in fresh vegetables.

Based on the results of two studies done on Saudi medical students, those who smoked, lived in leased accommodation, were unmarried, had divorced parents, and did not participate in regular physical exercise had much worse eating habits than their classmates. In a multivariate analysis [1], researchers found a connection between a number of psychological factors and disordered eating patterns. The second research found that despite their studies in medicine, both male and female medical students at all levels of education have the same unhealthy eating habits and sedentary lifestyle as the rest of the people in the kingdom.

Obesity, type 2 diabetes mellitus, dyslipidemia, smoking, and related lung problems, hypertension, and coronary heart disease are the leading causes of death worldwide [4]. A population's dietary and health habits may be indicative of its general health and the extent of its risk for lifestyle disorders [3]. The genesis of the aforementioned diseases is significantly influenced by dietary habits [5, 6], both in terms of the quantity and quality of food consumed.

To a large extent, college students are representative of the community's youthful age group, and this group is particularly vulnerable to the negative health effects associated with improper diet and lifestyle choices made during their time at university. For example, they may eat more fast food, cut down on their fruit and vegetable intake, and spend more time in front of a screen, all of which may have a bad effect on their health and raise the risk of obesity, diabetes, and heart disease [6, 7].

Changing dietary habits in Saudi Arabia mirror the country's rapid political and economic development over the last several decades. Despite the fact that these dramatic lifestyle shifts have affected people of all ages, they have had an especially profound effect on young people [8-9].

Numerous research [10–16] have shown the extent and consequences of poor dietary habits among teenagers and adolescents, such as the rising prevalence of obesity. Teens and college students were also studied with regards to these factors, and identical results were found at both levels [18, 19]. Local and worldwide studies [20] show that the prevalence of metabolic illnesses such type 2 diabetes mellitus among school-aged children in the Saudi population has risen to 23.7%. A large portion of the city's population is affected by this [21].

Nutritional and lifestyle issues among Saudi Arabia's youth and college students have been the subject of a great deal of study. Almost every one of these investigations found that the students' diets and lifestyles fell short of what was recommended by worldwide standards. As future doctors, medical students are looked up to as role models for their peers and are thus expected to live a healthier lifestyle than the average person. This is due of the increased medical knowledge they will have about the importance of eating well.

Few studies have looked at these aspects in medical students despite their theoretical and practical exposure to the advantages of sound food habits and the adverse effects of bad habits on the health of human beings [23, 24]. However, there has been little global research on these habits among medical students, and we could locate just one local study that looked at them as potential risk factors for coronary heart disease among doctors [25]. In order to discover

these problems earlier and follow them throughout academic levels to help in the development of more effective treatments, a comprehensive investigation of the eating habits and lifestyle of medical students at all academic levels is necessary.

One of the best things you can do for your health is to stick to a diet that's high in natural, whole foods and low in processed meals. Maintain your health with a diet abundant in fresh vegetables, whole grains, and vitamin and mineral-rich foods. Maintaining and enhancing one's mental and physical health via consistent eating and other activities is also a component of this. Ability to eat properly is affected by both personal and societal (environmental and social) factors. The goal of this research was to analyze the eating habits of KSA medical students.

METHODS:

Study design and settings

A descriptive, correlational cross-sectional design was employed for this study. Since this study aims to assess the medical students' dietary patterns at a single point of measurement, this is the most appropriate design. This enables the researcher to measure the effect and the outcome at a single point of time. This study design gives reliable results with short time and less effort. The study was conducted at medical schools in Jeddah: [King Abdul Aziz University, King Saud University, Ibn Sina Private Medical College, Batarji Private Medical College, and Fakeeh Private Medical College]. The participants were selected during December 2022.

Population, Sampling and Sample size

Study participants were selected on two steps, stratified random sampling at the level of universities, to determine the required sample size from each college, then non-probability convenient sampling technique to collect the sample size from each college. Sample size was determined according to the total number of medical students in Jeddah with a confidence level of 95% and marginal error of 5%. In the view of the above, and after determining the estimated total number of medical students in Jeddah [44]; our sample size has been calculated via Epi-info software to be 338 student.

Data collection

Data was collected using a questionnaire filled through a self-administered approach.

Instruments

Study instruments consisted of two domains. First is sociodemographic characteristics of medical students. Second is dietary pattern assessment.

Statistical analysis

Data obtained from questionnaire were entered and analyzed using SPSS program version 23 computer software. Sociodemographic data are presented using descriptive statistics as means, median, percentages and standard deviation. Independent T test and one-way Anova are used to show statistical significance among participants characteristics. Chi square test is used to show relationship between categorical variables.

Ethical consideration

An approved permission was gained from university to collect quantitative data from medical students. After explanation of study objectives, participants were asked to volunteer to participate at our study. In addition, verbal informed consent was gained from participants before asking questions.

RESULTS:

Sociodemographic characteristics

The study included 338 medical students from all academic levels. There were 195 male participants (57.7%) and 143 female participants (42.3%). The median age among study participants was 22 years. The most frequent age group was 18-22 years (n= 199, 58.9%). Figure 1 shows age groups distribution among study participants.

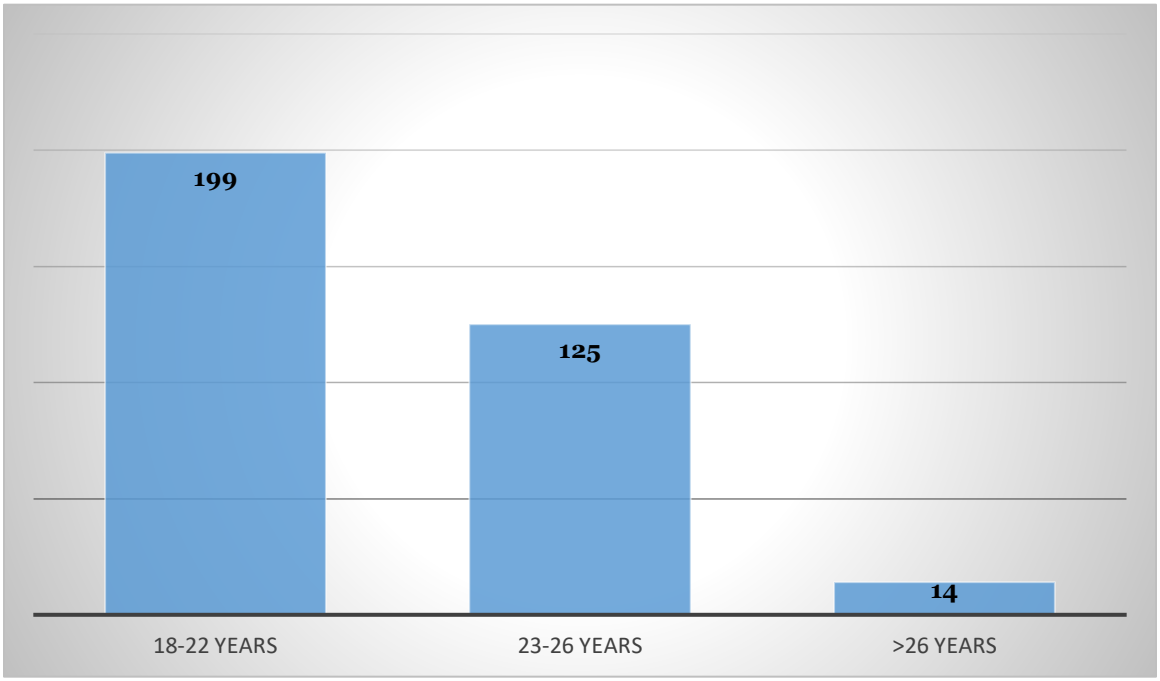

Figure 1: Age groups distribution among study participants

Students were from all academic levels except year one. Year six was the most frequent among study participants (n= 91, 26.9%). Figure 2 shows academic level distribution among study participants.

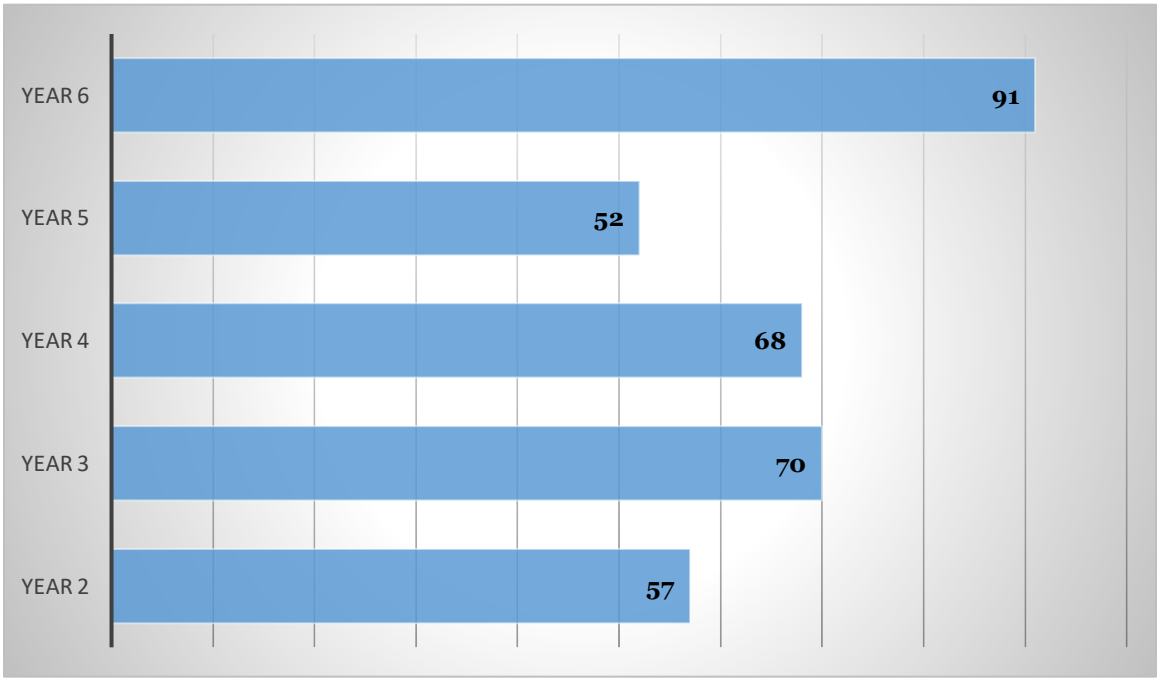

Figure 2: Academic level distribution among study participants

Vast majority of study participants were single (n= 325, 96.2) and the rest were married (n= 13, 3.8%). Quarter of participants were smokers (n= 87, 25.7%) and the rest were not. Majority of study participants are living with the family (n= 293, 86.7%).

Dietary pattern

Dietary pattern of study participants was assessed through a series of questions about their weekly intake of certain groups of food. It was noticed that study participants had different dietary patterns. Female participants eat fast food more than males (P<0.001) while male participants eat fruits and vegetables more (P<0.001). No difference was found in physical activity. The median duration of physical activity per week was 3 hours.

Table 1: Assessment of dietary pattern of study participants

Item		Frequency	Percent
Drink soft drinks	No	28	8.3
	<2 cans per week	122	36.1
	>2 cans per week	188	55.6
Do you know the harm of soft drinks?	Yes	149	44.1
	No	189	55.9
Eat fast food	No	98	29
	<2 meals per week	140	41.4
	>2 meals per week	100	29.6
Do you know the benefits of dairy products?	Yes	202	59.8
	No	136	40.2
Take dairy products regularly	Yes	152	55
	No	186	45
Take fruits and vegetables regularly	Yes	237	70.1
	No	101	29.9
Practice physical exercise regularly	Yes	219	64.8
	No	119	35.2

DISCUSSION:

Medical students are held to an unrealistically high standard in the areas of health and fitness. People outside of the academic community sometimes think that people who major in health sciences know more about maintaining a healthy lifestyle than those who major in other fields. Students are the future health care providers, thus it is essential that they demonstrate leadership by living a healthy lifestyle. In particular, medical and paramedical students living in dormitories are more likely to engage in harmful behaviors such as poor diet, lack of exercise, and drug misuse [26, 27].

One of the most significant methods to enhance health is via proper nutrition. Maintain your health with a diet abundant in fresh vegetables, whole grains, and vitamin and mineral-rich foods. Part of this includes developing healthy habits, such as a regular eating schedule and other daily routines. What individuals consume is influenced by a wide range of factors, both internal and external to the individual [28]. Food preferences in Saudi Arabia have changed dramatically over the previous several decades as the country's economy has flourished. These drastic changes in lifestyle have affected individuals of all ages [29], but young people in particular. Previous studies have shown that the typical Saudi diet is high in processed foods and meats and low in fresh produce [30].

Due to increasing stress and time restrictions, adult students making the transition from high school to college typically struggle to maintain healthy eating habits. These kids are more prone to skip meals, snack poorly, eat out often, and choose fast food [31].

There is a dearth of data on the potential effects of passive techniques on diet and nutrition [32]. Because of their enhanced knowledge in this area, students pursuing careers in the medical industry are expected to eat and live healthily themselves. So it's on them to set a good example when it comes to nutrition so their friends may follow suit. Recent studies [33] have indicated that Chinese medical students had poor dietary habits. In terms of knowledge about healthy nutrition, medical students are potentially risky [34]. The stresses of higher education and professional school are directly linked to unhealthy eating patterns [35]. One of the most psychologically and emotionally demanding academic disciplines is medical school. The significant time and emotional commitments necessary for medical school may have a severe influence on the mental health of medical students [36]. As the future physicians, medical students have a responsibility to themselves and their patients to emphasize healthy eating [31].

A person's "nutritional status," which may be considered of as the total of that person's health as impacted by intake and utilization of nutrients, can be evaluated by physical, biochemical, and dietary examinations [37]. Besides the foods they eat and the people they eat with, a person's eating habits also include how they shop for, cook, consume, and throw away leftovers [38]. An unhealthy nutritional status may be caused by either under- or over-nutrition. Multiple studies have shown the high prevalence of undernourishment and other risk factors for cardiovascular disease and metabolic syndrome in young people. Dietary deficiencies and unhealthy lifestyle choices are key factors in the development of these conditions. A university, and particularly a medical school, may provide the ideal setting for a preventive intervention program. We believe that medical students might set an example for their peers by adopting healthier lifestyles and encouraging others to do the same. Although there are studies on the issue for college students [39–42], it seems that no study has been done on the eating habits and nutritional state of medical school students in Cameroon. To that end, the study was carried out.

In order to learn more about the eating habits of undergraduates at a health school, Vibhute et al. (2018) undertook a research. Thirty-nine students from a school with an emphasis on health had their dietary attitudes and practices assessed by questionnaire. There may be more than one correct answer that students may choose from, depending on the issue at hand. In the end, the data was tallied and conclusions were drawn. One hundred thirty students (74 women and 56 men) from a university of health took part in the study. Seventy-five percent of the children (98) ate just one or two daily portions of fruit and vegetable. 8%, or 11 kids, were considered overweight or obese, while 18%, or 24 students, were considered underweight. The findings of this study stress the need of doing more research on the dietary and nutritional habits of our future medical health professionals and implementing interventions to increase awareness of and compliance with the appropriate World Health Organization (WHO) standards [43].

Students at Kind Abdulaziz University [1] who smoked, lived in overcrowded conditions, were raised by single parents, did not exercise regularly, and did not prepare the majority of their own meals had much worse scores on the survey's nutrition part. Multiple

factors, such as isolation and stress, were shown to affect individuals' food choices in a multivariate analysis. It was shown that both socioeconomic and psychological variables contributed significantly to the bad eating habits of first-year medical students.

Research from the University of Dammam found that 91% of its student body participated in a survey, with an average age of 20.27762.06175 and a gender breakdown of 333 males and 229 girls (59.25% to 40.75%). Most students (91.3% across all three levels), notably male students (85%), eat fast food at least once a month. Most students continue to consume excessive amounts of soda and too few servings of fruits and vegetables despite being aware of the health dangers associated with soft drinks and the numerous benefits associated with a healthy diet rich in whole foods. During their three years of medical school, almost as many men as women (65% and 80%, respectively) did not make time for regular physical exercise. Both male and female medical students at all levels of school have shockingly terrible eating habits and a lifestyle that are typical of the general population in the kingdom [2].

CONCLUSION:

Study results showed that study participants had different dietary patterns. Female participants eat fast food more than males while male participants eat fruits and vegetables more. No difference was found in physical activity.

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