The influence of lifestyle and dietary habits on the nutritional profile of medical students and other health sciences academics

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ABSTRACT: A series of risk factors and changes in lifestyle habits tend to worsen in health students, due to the stressful routine. In addition to the requirement for dedication and performance, medical students are exposed to other harmful lifestyle habits, including poor diet, sedentary lifestyle, sleep disorders, stress, and mental disorders, as well as alcoholism and smoking. This work analyzed the lifestyle and habits related to the nutritional profile of academics in the health area, especially medical students, observing the main dysfunctional practices, their prevalence, associated conditions, and harmful consequences. An integrative literature review was carried out on the CAPES, SciELO and LILACS Journal Portal databases. It was found that medical students have high levels of overweight, ranging between 26% and 32.2%; and obesity ranging between 4% and 7.8%. Unhealthy lifestyle habits such as inadequate eating practices, sedentary lifestyle, alcoholism, and smoking are common, especially linked to long and stressful routines, in addition to easier access to medicines. The vulnerable position experienced by medical and healthcare students is evident, with a prevalence of lifestyle habits considered to be at risk for the development of obesity and risk factors for other chronic non-communicable diseases.

KEY WORDS: Medical Students; Lifestyle; Habits; Physical Exercise; Obesity.

RESUMO: Uma série de fatores de risco e alterações dos hábitos de vida tendem a se agravar em estudantes da área da saúde, em função da rotina estressante. Além da exigência de dedicação e rendimento, estudantes de medicina estão expostos a outros hábitos de vida deletérios, incluindo má alimentação, sedentarismo, alterações do sono, estresse e transtornos da esfera psíquica, e ainda o etilismo e tabagismo. Este trabalho analisou o estilo e hábitos de vida relacionados ao perfil nutricional dos acadêmicos da área de saúde, em especial os estudantes de medicina, observando as principais práticas disfuncionais, suas prevalências, condições associadas e consequências deletérias. Foi realizada uma revisão integrativa de literatura nas bases do Portal de Periódicos CAPES, SciELO e LILACS. Foi constatado que os estudantes de medicina apresentam elevados níveis de sobrepeso, variando entre 26% e 32.2%; e obesidade variando entre 4% e 7.8%. Hábitos de vida insalubres como práticas alimentares inadequadas, sedentarismo, etilismo e tabagismo são frequentes, especialmente atrelados as rotinas longas e estressantes, além do acesso facilitado a medicamentos. Fica evidente a posição de vulnerabilidade vivenciada pelos estudantes de medicina e da área de saúde, com prevalência de hábitos de vida considerados de risco para o desenvolvimento de obesidade e fatores de risco para outras doenças crônicas não transmissíveis.

PALAVRAS-CHAVE: Estudantes de Medicina; Estilo de vida; Hábitos; Exercício Físico; Obesidade.

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INTRODUCTION

Obesity is a complex and multifactorial disease, associated with different risk factors that include a sedentary lifestyle, excessive or inadequate food consumption, daily consumption of alcoholic beverages and poorly understood genetic factors. There is an alarming increase in overweight and obesity worldwide, and recent data from the World Health Organization (WHO) indicate that the number of obese people has almost tripled worldwide.1

In Brazil, obesity already affects almost 20% of the population, especially women, and has grown by more than 60% in 10 years. In line with this, analysis of data from the National Health Survey demonstrated a prevalence of obesity of 16.8% in men and 24.4% in women, while overweight was identified in 56.5% of men and 58.9% of women. This growth in obesity rates is a global trend, greatly influenced by changes in behavioral patterns in relation to diet and lifestyle habits, due to the major economic, demographic, environmental and cultural transitions experienced in recent decades, characterizing a process called transition nutritional.2

This problem is especially important in medical students, since the high workload in addition to the great demand for dedication and performance, is associated with several risk factors for weight gain, including physical inactivity and sedentary lifestyle, sleep changes, deterioration eating habits, stress and psychiatric disorders.3-5 Despite neglect by students, the practice of physical activities has several benefits beyond controlling body weight, being essential for improving quality of life and ensuring biopsychosocial well-being, in addition to generating positive effects on cognition and learning capacity. According to WHO, the recommendation for adults is at least 150 minutes of moderate aerobic physical activity or 75 minutes of vigorous activity weekly to obtain desirable cardiovascular benefits.6

In addition to poor diet and sedentary lifestyle, medical students are exposed to other harmful lifestyle habits, including alcoholism and smoking. Such practices are widely used as an escape mechanism against high levels of stress and anxiety.6,7 Therefore, this work analyzed data on the lifestyle and habits related to the nutritional profile of academics in the health area, especially medical students, observing the main dysfunctional practices, their prevalence, associated conditions, and harmful consequences.

METODOLOGY

The present study is an integrative literature review, which allows the combination of empirical and theoretical data, guided by methodological analyzes of studies on a given topic and discussion of the results observed. This type of review makes it possible to identify gaps in the study area. To prepare this review, the following steps were followed: identification of the topic, selection of the guiding question and objectives, search in electronic databases, according to inclusion and exclusion criteria, selection of reviewed articles, evaluation and discussion of the results obtained. To respond to the proposed objective, the guiding question was: “do students in the health area, especially medical students, have an unhealthy lifestyle and habits?”

The following Health Sciences Descriptors (DeCS) and Medical Subject Headings (MeSH) were established: “Lifestyle”, “Habits” and “Medical Students” combined with Boolean operators, which resulted in the search strategy: (“lifestyle”[DeCS] OR “life style”[MeSH] OR “life style”[All Fields] OR “life style”[All Fields]) AND (“habits”[DeCS] OR “habit”[All Fields] AND “medical”[MeSH Terms] OR “student”[All Fields] AND “alcohol”[All Fields] OR “tobacco”[All Fields] OR “student”[All Fields] AND “medical”[MeSH Terms] OR “students”[All Fields]). The searches were carried out in the electronic databases: CAPES Journal Portal, Scientific Electronic Library Online (SCielo) and Latin American and Caribbean Literature in Health Sciences (Lilacs). Data collection took place from March to May 2023. As inclusion criteria, original studies, reviews, monographs, dissertations, theses published in Portuguese, especially academics in the health area. Duplicate articles, case reports, comments, letters to the reader, as well as those that did not address the proposed theme were excluded. 1256 publications were obtained, of which 25 articles were selected according to the selection criteria, the study selection and analysis protocol. The exclusion and selection process in detail can be seen in Figure 1.

Figure 1 - Flowchart of the selection steps for articles found in the databases.

RESULTS AND DISCUSSION

Still in the selection of studies for analysis, some were included due to their relevance in approaching the topic, even if they did not specifically study the population of students in the health area. Information from the 25 articles obtained after selection can be found in Table 1, which brings together the outcomes observed in each study.

Table 1 - Articles included in this integrative review.

<table>
<thead>
<tr>
<th>AUTHORS</th>
<th>OBJECTIVE</th>
<th>OUTCOME-CONCLUSION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aguiar et al.</td>
<td>To assess the student’s knowledge about alcohol consumption based on their drinking pattern</td>
<td>60.0% of medical students presented a binge drinking pattern and 30.7% of students were identified as having risky behavior for alcohol consumption. There was no significant correlation between knowledge and drinking pattern.</td>
</tr>
<tr>
<td>Andrade et al.</td>
<td>To determine the profile of alcohol and tobacco consumption among medical students.</td>
<td>It was found a 12% prevalence of smoking and 83.4% of alcohol consumption among students, with 50% having already tried to stop smoking and 43% to reduce or cut down on drinking.</td>
</tr>
<tr>
<td>Barbosa et al.</td>
<td>To evaluate the eating practices of students entering the 1st semester of health courses.</td>
<td>It was observed a high frequency of inadequate eating practices, with a high intake of processed foods and a low number of fruits and vegetables.</td>
</tr>
<tr>
<td>Barros et al.</td>
<td>To evaluate the nutritional profile of medical students.</td>
<td>Several factors, such as long workloads and family distance, contribute to poor eating habits among students, with a preference for cheaper and more practical foods, which are high in calories and low in nutrients.</td>
</tr>
<tr>
<td>Baitia et al.</td>
<td>To investigate and outline the dietary profile of the Brazilian adult population.</td>
<td>It was showed a dietary profile rich in processed foods, low in fiber, fats, and vegetables, in addition to an increase in overweight and obesity.</td>
</tr>
<tr>
<td>Boanini et al.</td>
<td>To evaluate the practice of physical activity by medical students and its association with quality of life.</td>
<td>It was found a positive association between regular physical activity and improved quality of life in all domains assessed.</td>
</tr>
<tr>
<td>Cature et al.</td>
<td>To evaluate the prevalence of obesity, overweight and central obesity in medical students.</td>
<td>The prevalence rates found were 26.4% for overweight, 7.8% for obesity and 7.5% for central obesity. There was a correlation between excess weight and alcohol consumption.</td>
</tr>
<tr>
<td>Carro et al.</td>
<td>To verify the relationship between anxious symptoms and the practice of physical activities in medical students.</td>
<td>It was observed a close relationship between the practice of physical activity and the reduction of anxiety symptoms, since the majority of anxious students are irregularly active.</td>
</tr>
<tr>
<td>Casado et al.</td>
<td>To verify the nutritional profile, body composition and risky food consumption in medical students.</td>
<td>It was identified a high consumption of ultra-processed foods, high rates of sedentary lifestyle, in addition to high numbers of overweight and percentage of body fat.</td>
</tr>
<tr>
<td>Franco et al.</td>
<td>To evaluate the pattern of alcohol consumption by medical students.</td>
<td>88% of students consume alcohol and 46% of them are considered to be at risk. Therefore, they are often an escape mechanism against high levels of stress and anxiety.</td>
</tr>
<tr>
<td>Gomes et al.</td>
<td>To estimate the prevalence of alcohol consumption and the influence of gender among medical students.</td>
<td>The prevalence of alcohol consumption was 81.1%, which is worrying due to the high frequency and volume, especially among men, who have a 130% greater chance of harmful alcohol consumption.</td>
</tr>
<tr>
<td>Junqueira et al.</td>
<td>To evaluate the prevalence of overweight and obesity and sleep quality in medical students.</td>
<td>It was observed high prevalences of overweight (26.1%) and obesity (6.5%), being closely associated with low physical activity. There was no significant correlation with sleep changes.</td>
</tr>
<tr>
<td>Lima et al.</td>
<td>To analyze the prevalence of electronic cigarette, use among medical students and associated respiratory symptoms.</td>
<td>61.8% of medical students interviewed used or have used electronic cigarettes. The associated lung damage is similar to that caused by the effects of traditional tobacco.</td>
</tr>
<tr>
<td>Mariotti et al.</td>
<td>To evaluate the eating habits of students from the 1st to the 8th period of a medical course.</td>
<td>The students evaluated indicated a worsening in their eating patterns after entering college, negatively impacting their quality of life.</td>
</tr>
</tbody>
</table>
Since the beginning of the 21st century, Brazil has presented an evident transition in its nutritional profile, closely related to changes in dietary patterns. There is a rise in the consumption of processed and ultra-processed foods, characterized by being cheap and extremely high in calories, combined with the reduction in the consumption of fresh foods. This contributed to the reduction in nutrition levels in the population, leading to a massive increase in overweight and obesity. This contributed to the reduction in malnutrition levels in the country, with 41% of students reporting a high prevalence of obesity and its complications showed a robust association with high levels of stress.

In addition to the reduction in food quality, it is common that, due to long working hours, students replace their main meals, such as lunch and dinner, with quick snacks in an attempt to optimize time. Furthermore, 76% of the students evaluated reported a worsening in their eating pattern after entering college, negatively impacting their quality of life, and manifesting as tiredness, sleepiness, and weight gain. Accordingly, the prevalence of these patterns indicates that 75% of the university students evaluated performed moderate or intense physical activities, especially among males. Risky dietary patterns include excessive consumption of ultra-processed products, consumption of meals away from home, as well as intake of fruits and vegetables below those recommended by the Ministry of Health, being associated with an increased prevalence of overweight/obesity and other chronic diseases, non-transmissible.

This search for speed and practicality is closely linked to the consumption of fast food and ultra-processed foods. In this sense, a study carried out at a university in Santa Catarina showed that 30% of medical students consumed fast food at least once a week. Furthermore, 65% of students consume ultra-processed products more than 3 times a day. In association with an unfavorable nutritional profile and eating habits, university students present a series of other risk factors and behaviors that contribute to the development of overweight and obesity, including especially a sedentary lifestyle, consumption of alcoholic beverages and smoking. The practice of physical activities is a fundamental pillar for the well-being and biopsychosocial balance of individuals, as well as promoting improvements in students’ cognition and learning capacity in an academic environment. Despite this, it is common to observe students in medical training who are overweight and have high workloads and stressful factors, which end up prioritizing academic obligations to the detriment of exercise and self-care, negatively impacting both their health and academic performance.

Regarding smoking or smoking, as well as alcohol, it is widely used during medical school as an “escape” from problems arising from the stressful routine and high workloads experienced by students. However, just like alcohol and other psychoactive substances, it causes chemical dependence and generates countless losses in the individual’s personal and social spheres. Furthermore, entering university is generally accompanied by social changes and instability, with the creation of new bonds which often transform the habit of smoking into a practice of socialization.

One study observed that 32% of medical students reported smoking or having done so at some point during their medical education, with 41% of students reporting low levels of physical activity. Such differences may be explained by the fact that students spend an average of 9 hours sitting daily. These values are in agreement with other studies in the literature according to which 62.9% of students spend more than 8 hours a day sitting, while 56% of students spend more than 10 hours a day sitting.

Regarding alcohol consumption, it is known that excessive intake is associated with a series of physiological disorders and, mainly, psychosocial disorders. Furthermore, early onset is associated with a greater propensity for developing dependence and negative health consequences. Students, especially medical students, are in a situation of great vulnerability to this consumption, often used as an escape mechanism for the high levels of stress, anxiety and depressive symptoms that result from the high number of responsibilities and excessive course loads.

A study observed that 60.4% of medical students presented a binge drinking pattern of alcohol consumption, and 30.7% of the students evaluated identified as having risky behavioral patterns. Among these students, 88% of the students evaluated consumed alcoholic beverages, with 46% of them using alcohol as a risk factor. Similar findings were found by other studies, 71.2% of students were alcoholic consumers, and 53.8% of students exhibited risky behavior, and 85% of students reported high levels of stress, anxiety and depressive symptoms.

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The high percentages of overweight and obesity in medical students are, therefore, targets of great concern, as they represent an important predisposing factor for the development of a series of diseases, such as Diabetes Mellitus 2, cardiovascular diseases, dyslipidemia, cancer and osteoarthritis diseases, significantly reducing the quality and life expectancy of these students.

CONCLUSION

From the analysis of this review, it is evident that students in the health area, especially those in medicine, present a series of risk behaviors for the development of overweight and obesity, mainly including inadequate eating practices, insufficient physical activity, alcoholism and smoking. Several factors, including high workloads, family distance, cost and greater need for practicality are associated with risky eating behaviors. While long hours and stressful routines are closely linked to high rates of sedentary lifestyle among students. Alcoholism and smoking, in turn, are widely used as an “escape” mechanism for the high levels of stress and anxiety resulting from students’ extensive routine and full of responsibilities. All of these high rates of obesity have been observed in medical students, who, in turn, also demonstrated high rates of obesity and weight, as well as increased abdominal circumference. This results in a high risk of developing other diseases, compromising the quality and life expectancy of another generation.

Regarding abdominal circumference values, a study identified a high prevalence of high abdominal circumference (≥88 cm for women and ≥102 cm for men), affecting 31% of the students evaluated. Studies found central obesity values, obtained from less rigid reference values for abdominal circumference, significantly high when compared to traditional smoking and denote a great concern. Since, like traditional cigarettes, they cause great harm and promote dependence.

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Based on the knowledge of the extensive range of risk factors, in the nutritional and behavioral spheres, to which students are subjected on a daily basis, it is evident in the literature that overweight, and obesity represent a significant and growing problem in this group. Several studies provide results about the prevalence of overweight and obesity in medical students. One of them observed values strongly linked to low levels of physical activity. Similar results with high prevalence of overweight (26.1%) and obesity (6.5%), being closely associated with low physical activity, changes in eating habits and smoking. These findings reinforce the concern to study observed prevalences of overweight and obesity of 26% and 4%, respectively. Meanwhile, another study observed 26.4% overweight and 7.8% obesity.


