



ORIGINAL

Consequences of the academic evaluation stage on the habits and physical health of students in the medicine career of the University del Valle

Consecuencias de la evaluación académica en los hábitos y salud física de los estudiantes de medicina de la Universidad Privada del Valle

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ABSTRACT

Introduction: academic evaluation is a necessary stage in the training of the medical student; It can end in negative habits and stress that can influence physical health and performance; In this way, the objective of this work is to determine this relationship that directly affects medical students.

Method: cross-sectional study in 110 medical students from the Universidad Privada del Valle in Cochabamba, between 18 and 25 years old; through closed surveys, their study habits and health were evaluated during evaluation stages; The information was processed in SPSS (Statistical Package for the Social Sciences) version 24 and Microsoft Office Excel, version 2021.

Results: 73 % of students reported negative effects on their habits during exams. 51 % indicated sleep problems, 31 % nutritional neglect and 19,8 % an increase in tobacco consumption; additionally, 80 % experienced weight changes, and 70 % slept less than 6 hours.

Discussion: academic stress generates negative changes in student well-being, affecting sleep, eating and tobacco consumption; these problems are common in Latin America; it is recommended to implement stress management programs and promote healthy habits in the evaluation stage.

Keywords: Anxiety; Evaluation; Lifestyle; Psychological Stress; Smoking Habit.

RESUMEN

Introducción: la evaluación académica es una etapa necesaria en la formación del estudiante de medicina; la misma puede terminar en hábitos negativos y estrés que pueden influir en la salud física y desempeño de los mismo; de esta manera el objetivo de este trabajo es determinar esta relación que afecta directamente a los estudiantes de medicina.

Método: estudio transversal en 110 estudiantes de medicina de la Universidad Privada del Valle en Cochabamba, de entre 18 y 25 años; mediante encuestas cerradas, se evaluaron sus hábitos de estudio y salud durante etapas de evaluación; la información se procesó en SPSS (Statistical Package for the Social Sciences en su acrónimo en inglés) versión 22 y Excel de Microsoft Office, versión 2021.

Resultados: el 73 % de los estudiantes reportó efectos negativos en sus hábitos durante los exámenes. El 51 % indicó problemas de sueño, el 31 % descuido alimenticio y el 19,8 % un aumento en el consumo de tabaco; además, el 80 % experimentó cambios en el peso, y el 70 % durmió menos de 6 horas.

Discusión: el estrés académico genera cambios negativos en el bienestar estudiantil, afectando el sueño, la alimentación y el consumo de tabaco; estos problemas son comunes en América Latina; se recomienda implementar programas de manejo de estrés y promoción de hábitos saludables en la etapa de evaluación.

Palabras clave: Ansiedad; Evaluación; Estrés Psicológico; Estilo de Vida; Hábito Tabáquico.

INTRODUCTION

The academic evaluation stage is a crucial stage in student training, where the knowledge acquired is measured, and it is assessed whether the student has learned what is necessary for professional practice, exposing its importance; from another point of view, students, in order to calm fear, stress, worry or to try to perform optimally, acquire habits that are not at all favorable to their health;⁽¹⁾ the prevalence of overweight and obesity in school children aged 5 to 9 years worldwide reaches 131 million, which means 20,6 % of the population; and in adolescents aged 10 to 19 years it reaches 207 million, which is equivalent to 17,3 % of the world population; on the other hand, Ruegenberg Jerez A et al.⁽¹⁾ indicate that in 2020 in Bolivia, central obesity was present in 6 % of technical level students and 20 % of undergraduate students; three out of ten Bolivian students are overweight or obese; on the other hand, the government declared a national epidemic of overweight and obesity on October 17, 2020; likewise, schoolchildren in Tarija, Santa Cruz, Pando and Cochabamba are the ones with the highest prevalence of overweight and obesity.^(1,2,3)

Students of the nutrition degree course at the Universidad Mayor de San Andrés (UMSA) carried out a study measuring the weights and heights of 994 students; of the 416 males and 578 females with an average age of 23,4 years, 27 % of the males were overweight or obese; the level of overweight and obesity in females reaches 35 %.⁽²⁾

The World Health Organization (WHO) published a recent report on tobacco consumption in the world, referring to a habit detected in 22,3 % of the population; statistics indicate that 36,7 % of men and 7,8 % of women smoke, percentages lower than those detected in previous years; based on an American survey of smoking among young people in school from 6th to 9th semester in the year 2000, 16 % of the student population consume cigarettes; daily tobacco consumption in Bolivia is 21,9 % among men and around 9 % among women; on the other hand, 46,6 % of young people are exposed to second-hand smoke and every year more than 4,600 Bolivians die from tobacco-related illnesses;⁽³⁾ from another perspective, the increase in prevalence, together with age, agrees with the percentage of student smokers registered in each year of the medical degree course at the UMSA; in the first year smokers represent 51,8 %, which then drops sharply in the second year to 27,5 %, rising to 55,6 % in the third; it drops again to 40 % in the fourth, to finally rise again in the fifth and sixth years to 61,7 % and 60 %, respectively, becoming a daily lousy habit.^(4,5,6,7,8)

Lack of sleep is considered another side effect of academic evaluations; in an article by the Universidad Mayor de San Simón (UMSS), sleep quality, evaluated by the Epworth Sleepiness Scale (ESS), shows 23,6 % with a score suggestive of some degree of sleep deprivation; of this group, 15,7 % obtained a score of 11-12 points, corresponding to excessive and minimal daytime sleepiness; 4,9 % (ESE 13-15 points) with moderate excessive daytime sleepiness and 3 % (ESE 18-24) with severe excessive daytime sleepiness; of all the students evaluated, 74 % (N=240) had an ESE score ≤ 10 or within the normal range for a healthy adult and 23,6 % suffered from some degree of excessive daytime sleepiness (EDS); this percentage is lower compared to other international studies such as those from Saudi Arabia and Brazil.^(5,6,7,8,9,10)

From another perspective, adolescents need to sleep approximately 8 to 10 hours at night; consequently, getting the right amount of sleep is essential for anyone who wants to perform well in exams;^(6,7,8,9) lack of sleep is a consequence of the need to make the most of every last minute, expending effort and time as they can be burdened with a broad syllabus or, in any case, studying only at night.

The present work seeks to show the health consequences of acquiring non-recommended habits during academic evaluation, such as excessive food intake or obesity, tobacco consumption, and lack of sleep.

METHOD

A cross-sectional, observational, descriptive, and analytical study was conducted in Cochabamba, Cercado, applying a closed-ended survey (digital or web) to medical students at the Universidad Privada del Valle, Cochabamba. An observational, descriptive, and analytical study was carried out in the city of Cochabamba, Cercado, with the application of a closed-ended survey (digital or web) on students of the medical degree course at the Universidad Privada del Valle, Cochabamba, who are studying from the 1st to the 11th semester; the study population consisted of 110 students of both sexes, from different academic grades from the preclinical to the clinical stage. The inclusion criteria were: students of both sexes, any level of schooling, between the ages of 18 and 25; the exclusion criteria were anyone who is not part of the Universidad Privada del Valle or students who are not studying medicine; on the other hand, the principle of confidentiality of each student was respected using an informed consent form. The data obtained was coded and tabulated in the program SPSS, whose acronym stands for Statistical Package for the Social Sciences, an application used for statistical data analysis. Its 24th version is presented as a robust tool for handling large volumes of information; likewise, Microsoft Excel, version 2021, was used.

Initially, the study began by analyzing the routine situations of each participant without the influence of an external factor, such as the partial evaluation stage (considered the independent variable). This approach allows for more precise data to be obtained when comparing two different situations (the students' routine activities and activities during the mid-term exam period) about weight, smoking habits, and sleep; the objective is to determine if the observed habits already existed previously or if the pressure of the exams altered them.

The survey consists of multiple-choice questions designed to gather information about the participants' habits; these questions were devised originally to obtain valuable data about the impact of the exams on their routines; the relational analysis focused on determining whether the habits acquired during the exams persist once the assessment stage is over. In addition, we evaluated whether there is any relationship between the variables studied, such as whether one habit leads to the development of another and whether these changes have an impact on quality of life and academic performance; we also evaluated whether these changes in habits are more related to a specific educational level, such as the first or last years of the degree.

RESULTS

The results from 110 students, 44 female and 66 male, aged between 18 and 25 years old, studying medicine at the Universidad Privada del Valle, were analyzed. During the evaluation stage, the students were surveyed about the perceived changes in their daily habits. 4,5 % (5 students) reported a positive impact, 22,5 % (25 students) perceived no change, and 73 % (80 students) indicated a negative effect on their habits; in addition, the study evaluated how this stage affected their lifestyle: 59 % (65 students) noticed a considerable change, 39 % (43 students) perceived slight modifications, and 2 % (2 students) did not experience alterations in their lifestyle (table 1).

Regarding the types of evaluation, the following was observed: 88 % (96 students) identified that the most significant changes occurred during the partial assessment, which consisted of written knowledge exams; 5 % (5 students) perceived more changes during the hospital assessment, which involved the presentation or defense of clinical cases; 7 % (9 students) noticed more significant changes in the hospital assessment, focused on the exposition of review topics and supervised medical procedures (table 1).

Category	Results N=110	Percentage (%)
Feminine	44	40
Masculine	66	60
Impact on daily habits		
Positive impact	5	4,5
No change perceived	25	22,5
Negative impact	80	73
Changes in lifestyle		
Considerable change	65	59
Slight changes	43	39
Unchanged	2	2
Types of evaluation with the greatest impact		
Partial assessment	96	88
Hospital assessment (clinical cases)	5	5
Hospital assessment (medical procedures)	9	7
Most common conditions during evaluations		
Poor diet	34	31
Lack of sleep	56	51
Postural and muscular problems	17	15
Excessive tobacco consumption	3	3

During academic assessments, students experienced changes in their habits and lifestyle compared to periods without assessments; 31 % (34 students) reported that the main change was neglect of their diet; 51 % (56 students) identified lack of sleep as the most significant problem during these stages; 15 % (17 students) pointed out that muscle conditions, due to poor posture, were mentioned. Finally, 3 % (3 students) mentioned excessive tobacco consumption as the main neglected habit (table 1).

Given that diet is one of the most affected factors in students, they were asked what they prefer to consume during the exam period, taking into account time, accessibility, and economic possibilities; 49 % (54 students) said they preferred to buy fast food, 14 % (15 students) said they used fast food but in this case homemade, 8 % (9 students) said they preferred bought healthy food, 18 % (20 students) said they had homemade healthy food and 11 % (12 students) said they did not eat food (figura 1).

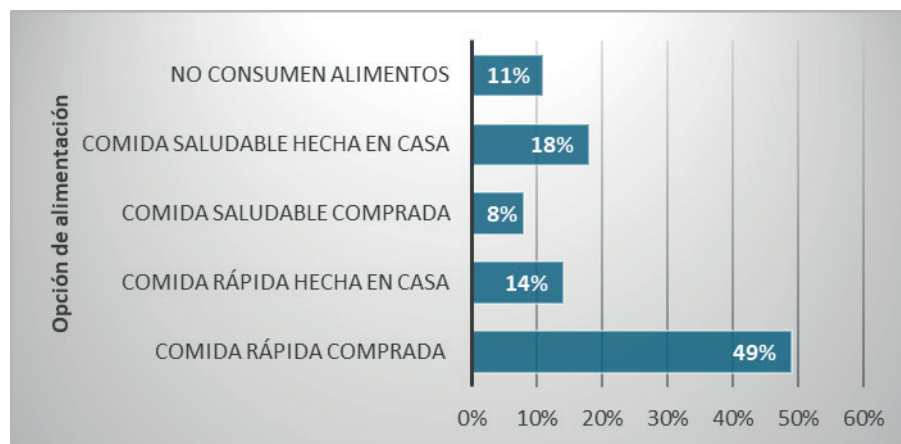


Figure 1. Students' food preferences during the evaluation stage

Students were asked to indicate if they noticed an increase in appetite during the evaluation stage; 65 % (71 students) saw an increase in appetite during the evaluation stage, and 35 % (39 students) noticed that their appetite did not increase; about the rise in appetite, they were asked if their weight was altered during the evaluation stage, either gain or loss: 80 % (88 students) noticed a change in their weight during the evaluation stage and 20 % (22 students) did not notice any change in their weight (figure 2).

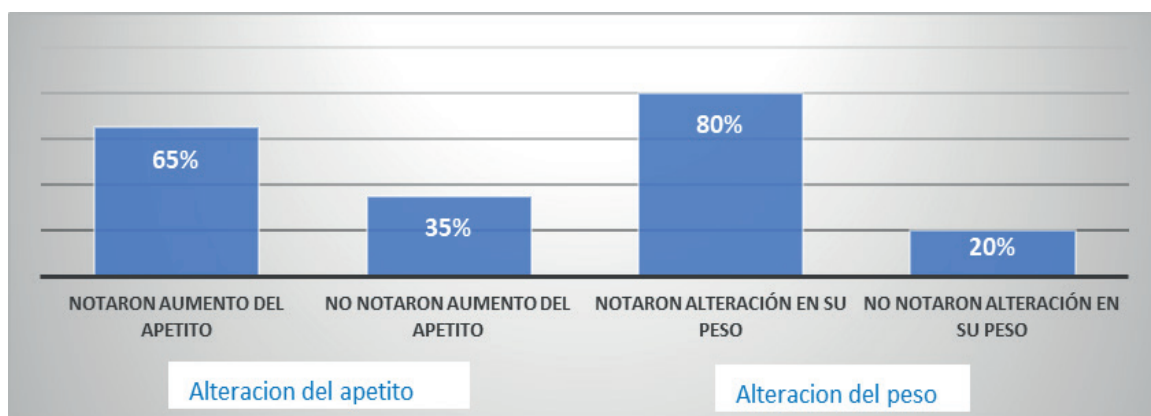


Figure 2. Changes in the students' appetite and weight

The degree of satisfaction with the food options offered by the Universidad Privada del Valle was asked: 2 % (2 students) said they were delighted with the food options provided; 36 % (40 students) said they were confident with the food options offered by the University, 34 % (37 students) say they are dissatisfied and 25 % (27 students) say they are depressed; finally, 4 % (4 students) do not eat at all (figure 3).

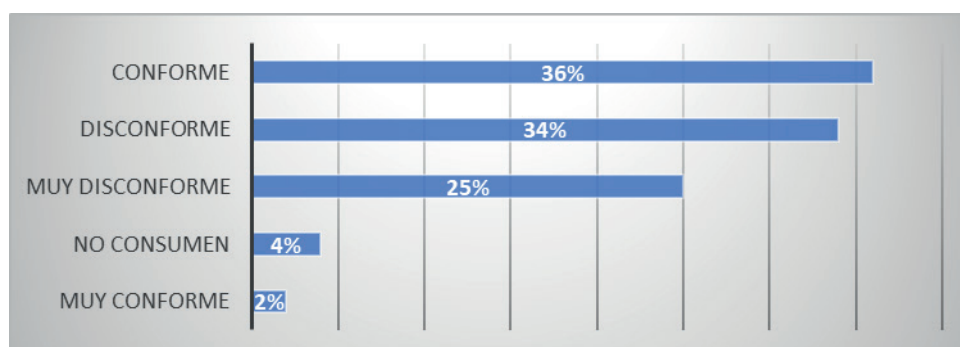


Figure 3. Degree of satisfaction with the food options offered by the Universidad del Valle

The students were asked if they smoke tobacco daily, where 5 % (5 students) said that they do and 95 % (105 students) said that they do not; the same question was asked but this time during the exam period, where 19,8 % (18 students) consume tobacco during the exam period and 80,2 % (92 students) do not consume tobacco during the exam period (figure 4).

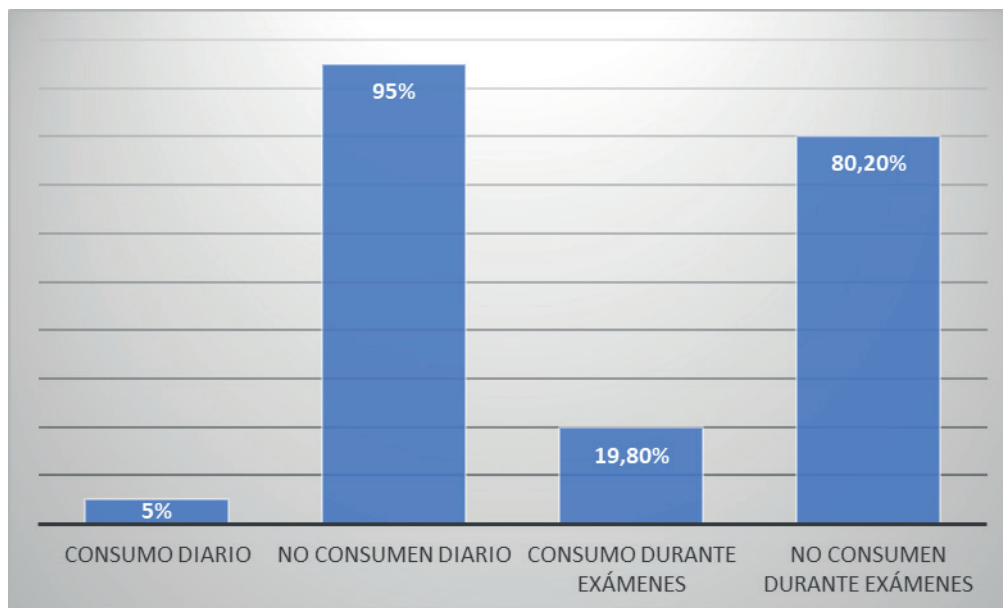


Figure 4. Daily tobacco use by students

They were asked if, at any time during the degree program the students received the recommendation of another colleague to use tobacco during the evaluation stage, where 40 % (44 students) said that they did receive the advice to use tobacco and 60 % (66 students) said that they did not receive any guidance on tobacco use; they were also asked if, when using tobacco during the assessment stage, the student felt any relief or satisfaction, where 14 % (15 students) said that they did feel relief or satisfaction when using tobacco and 86 % (95 students) said that they did not feel anything, mainly because the majority do not experiment.

Students were asked to indicate the number of hours of sleep they get when they are not doing academic work, where 5 % (5 students) report sleeping 10 hours, 36 % (40 students) report sleeping 8 hours, 41 % (45 students) report sleeping 6 hours and 18 % (20 students) report sleeping less than 6 hours; at the same time they were asked to describe their hours of sleep during the assessment stage where 3 % (3 students) report sleeping 10 hours, 3 % (3 students) report sleeping 8 hours, 11 % (12 students) report sleeping 6 hours, 70 % (76 students) report sleeping less than 6 hours and 14 % (15 students) report not sleeping (table 2).

Hours of sleep	Without evaluations		With evaluations	
10 hours	5	5 %	3	3 %
8 hours	40	36 %	3	3 %
6 hours	45	41 %	12	11 %
Less than 6 hours	20	18 %	76	70 %
Doesn't sleep	-	-	15	14 %

DISCUSSION

According to the National University of Almeria, Spain,^(7,8,9,10,11) 25 % of students presented cognitive alterations, with a worrying sense; physiological changes, with 17 % focused as worrying; and motor changes in 13 %, seen as worrying; these were carried out during the academic evaluation. Comparing these results with our students, 73 % reported having experienced negative feelings in their daily lives during the assessment stage, affecting their general well-being; in addition, 59 % of the students indicated that their lifestyles underwent major changes and, therefore had a greater impact on their partial assessments with 88 %.^(11,12,13)

Taking an exam is a stressful event that triggers a state of alarm, so it is to be expected that students will experience levels of anxiety; however, the problem arises when this state of alertness gets out of control, which

can lead to mistakes, blockages, and even panic attacks; thus, a moderate level of activation is necessary to function correctly, but when anxiety becomes chronic, students do not have time to recover, which leads to a series of failures; this generates additional problems, such as low self-esteem and the belief that they are not suitable for the degree they are studying; although the study presented did not reflect changes in anxiety, it did show alterations in sleep (51 %), diet (31 %), very little in tobacco consumption (3 %) and 15 % in muscle changes.^(8,11,14)

This natural process of anxiety during the assessments can manifest itself in symptoms such as loss of sleep, increased appetite, nausea, vomiting, headache, tachycardia, the feeling of suffocation, dry mouth, physical fatigue, and diarrhea.⁽¹¹⁾ However, 51 % of our respondents reported sleep disturbances during the exam period, whether due to stress, insomnia, or trying to make the most of the time available to study and get good results in their tests; it was observed that 70 % slept less than 6 hours and 14 % could not sleep at all, similar to a study that shows more than 66 % of insomnia.^(15,16,17,18)

A study showed that 31 % of their students reported more extraordinary carelessness in their eating habits, according to the Universidad del Bosque in Bogotá, Colombia; it was established that 3,5 % of nursing students have adequate habits, 52,9 % have regular eating habits and 43,6 % have inadequate habits;^(12,17,18,19,20,21) in relation to our country, we saw that 65 % of students reported an increase in appetite during the exam period, associated with an 80 % change in weight; in short, 49 % of students prefer fast food during exam periods, thus Medrano BP et al indicate that of 2254 university students surveyed in Paraguay, 89 % consumed fast food, sugary drinks or nectars (92 %) especially sodas (79 %), causing a significant risk to public and university health; in Ecuador, a consumption of 42 % in energy drinks was indicated; Panama with 89 % consumption of snacks or processed products; Venezuela with 87 % consumption in sweets;^(13,18,19,20,21,22) showing that it is not a cultural problem isolated to each country, but that in a large part of the American region the same issue is present in students in their eating habits and others during the evaluation stage.

Concerning the habit of tobacco consumption at the Universidad del Valle, we find encouraging results, with only 16 % consuming tobacco during the evaluation stage; according to a study, tobacco consumption is used by students as a coping strategy in such a way that they manage to handle and reduce the negative emotions caused by interpersonal conflicts or by the academic component of the semester that generates stress, such as follow-up activities or exams, since the aim is to improve or maintain the academic average; a situation that does not affect our respondents much; at the same time there are other causes such as social relationships, an overload of activities or a lack of control over one's educational environment.^(12,14,23,24,25,26,27)

The present work deals with a crucial issue for student health, especially during high-pressure situations such as academic evaluations. However, exams are decisive moments for measuring knowledge. They can also significantly alter students' lifestyle habits, affecting their physical and mental health, such as changes in diet, sleep, and the consumption of substances such as tobacco, as well as postural and muscular problems; increased appetite and weight changes are indicators that assessments have a significant impact on eating habits, with a predominance of fast food consumption.

The impact of academic stress on sleep patterns is equally relevant. The results show that more than half of the students experience sleep problems during exam periods, which can negatively affect their academic performance and general well-being. The relationship between stress and health is well known, and the effects of lack of sleep go beyond tiredness, affecting memory, the ability to concentrate, and mood.^(26,27,28,29,30)

Tobacco use, although less prevalent than other habits, also increases significantly during exams, suggesting that some students resort to this substance as a way of dealing with anxiety and stress; this reflects a worrying inadequate management of academic pressure, which could have long-term implications for students' health.

Finally, the results underline the need for intervention in students' health habits, stress management programs, education on healthy eating habits, and promotion of physical activity, which could help mitigate the adverse effects of assessments on student health. This may show the relationship between academic stress and lifestyle habits, which aligns with the analysis of changes in diet, sleep, and other essential aspects of physical and mental health.

Although this study considers medical students, it may also affect other students in different areas. It is pertinent to mention the need to carry out studies in more university centers or educational units and to specify a statistical relationship between these important variables.

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The authors declare that there is no conflict of interest.

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