

Relevant Burnout symptoms in second-semester medical students

Síntomas relevantes del Burnout en los estudiantes de segundo semestre de carrera de medicina

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Abstract

Academic burnout is a common syndrome among medical students, characterized by emotional exhaustion, depersonalization, and reduced personal accomplishment, resulting from high academic workload and evaluative pressure. The objective of this study was to assess the relevant symptoms of burnout and analyze their relationship with perceived academic workload, self-efficacy, social support, and coping strategies in second-semester students. A cross-sectional, descriptive, and observational study was conducted with 148 students, using the Maslach Burnout Inventory–Student Survey (MBI-SS) along with social support (MSPSS) and coping (Brief-COPE) scales. Data were analyzed using SPSS through descriptive statistics, correlation analysis, and multivariate models. The results showed a significant prevalence of moderate-to-high emotional exhaustion in 42% of students, cynicism in 36%, and low academic efficacy in 18%. Perceived academic workload was the main positive predictor of burnout ($\beta = 0.39-0.42$), while self-efficacy and social support acted as protective factors. Functional coping strategies reduced burnout, unlike dysfunctional ones. The models explained between 37% and 48% of the variance. In conclusion, academic burnout appears from early stages of medical training, with academic workload as its main determinant. Self-efficacy and social support play a key protective role, highlighting the need to implement institutional strategies focused on student well-being.

Keywords: academic burnout; medical students; academic workload; self-efficacy; coping strategies

Resumen

El burnout académico es un síndrome frecuente en estudiantes de medicina, caracterizado por agotamiento emocional, despersonalización y baja realización personal, derivado de la alta carga académica y la presión evaluativa. El objetivo del estudio fue evaluar los síntomas relevantes del burnout y analizar su relación con la carga académica percibida, la autoeficacia, el apoyo social y las estrategias de afrontamiento en estudiantes de segundo semestre. Se realizó un estudio transversal, descriptivo y observacional en 148 estudiantes, utilizando el Maslach Burnout Inventory–Student Survey (MBI-SS) junto con escalas de apoyo social (MSPSS) y afrontamiento (Brief-COPE). El análisis se efectuó en SPSS mediante estadística descriptiva, correlacional y modelos multivariados. Los resultados mostraron una prevalencia significativa de agotamiento emocional moderado-alto en 42% de los estudiantes, cinismo en 36% y baja eficacia académica en 18%. La carga académica percibida fue el principal predictor positivo del burnout ($\beta=0.39-0.42$), mientras que la autoeficacia y el apoyo social actuaron como factores protectores. Las estrategias de afrontamiento funcionales redujeron el burnout, a diferencia de las disfuncionales. Los modelos explicaron entre el 37% y 48% de la varianza. En conclusión, el burnout académico se presenta desde etapas tempranas de la formación médica, siendo la carga académica su principal determinante. La autoeficacia y el apoyo social desempeñan un papel protector clave, lo que resalta la necesidad de implementar estrategias institucionales orientadas al bienestar estudiantil.

Palabras clave: burnout académico; estudiantes de medicina; carga académica; autoeficacia; afrontamiento

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INTRODUCTION

Academic burnout is common among medical students and manifests as emotional exhaustion, depersonalization, and low personal accomplishment, resulting from high academic workload, evaluative pressure, and limited institutional support. This syndrome affects psychological well-being, motivation, and performance, compromising the quality of medical education. In Mexico, evidence regarding its occurrence in early stages is limited. This study aims to identify the symptoms of burnout and analyze its relationship with academic workload, self-efficacy, social support, and coping strategies in second-semester medical students at the Faculty of Medicine of Tampico "Dr. Alberto Romo Caballero."

OBJETIVE

Evaluate the relevant symptoms of academic burnout and analyze their relationship with perceived academic workload, self-efficacy, social support, and coping strategies in second-semester medical students at the Faculty of Medicine of Tampico "Dr. Alberto Romo Caballero", through the application of the Maslach Burnout Inventory (MBI-SS) and statistical analysis in SPSS. Specifically, the study aims to describe the frequency and intensity of symptoms, and examine the association between the mentioned variables to identify predictive factors of academic burnout.

METHODOLOGY

Design: Cross-sectional, descriptive, and observational study. Sample: 148 second-semester medical students.

Instrument: Maslach Burnout Inventory–Student Survey (MBI-SS), 22 items, measuring three dimensions (global Cronbach's alpha = 0.70), perceived stress, self-efficacy, social support (MSPSS), and coping strategies (Brief-COPE).

Data Collection: February–March 2025, in-person administration.

Analysis: SPSS, applying descriptive statistics, correlation analysis, and multivariate models to identify predictors of burnout. Informed consent, anonymity, and ethical approval were ensured, considering the research as minimal risk in accordance with institutional bioethics guidelines.

RESULTS

Sample: 64% women and 36% men, with a mean age of 19.6 ± 1.1 years.

Relevant dimensions:

- **Emotional Exhaustion:** Moderate to high levels of emotional exhaustion were observed in 42% of participants, and cynicism was present in 36%, while 18% showed low academic efficacy. The applied scales demonstrated high internal consistency ($\alpha = 0.78-0.91$), supporting the reliability of the instruments used.

Multiple regression models indicated that perceived academic workload was the main positive predictor of burnout ($\beta = 0.39-0.42$), while academic self-efficacy and social support acted as protective factors (negative β values). Additionally, functional coping strategies reduced burnout levels, in contrast to dysfunctional strategies, which increased cynicism. The models explained between 37% and 48% of the total variance. These findings confirm the early presence of academic burnout in medical students.

Variable	n	Media	DE	Mín	Máx
Cansancio emocional	148	3.84	1.12	1.20	6.90
Cenismo/despersonalización	148	5.12	1.05	0.90	5.80
Eficacia invertida	148	2.46	0.97	0.20	4.70
Índice global de Burnout	148	0.00	0.97	-1.80	2.95
Carga académica percibida	148	3.85	0.82	1.50	5.90
Autoeficacia académica	148	4.12	0.74	2.90	5.90
Apoyo social percibido	148	4.58	0.86	2.20	6.00
Afrontamiento funcional	148	3.89	0.61	2.30	5.90
Afrontamiento disfuncional	148	2.41	0.57	1.50	4.00

Table 1. (Own Authorship): Means and Standard Deviations of the Main Variables

CONCLUSIONS

The study confirms that academic burnout significantly affects medical students from the early semesters, with academic workload being the main determinant of the syndrome, in line with previous research. The results support the conservation of resources theory, where an excess of demands without compensatory resources (such as self-efficacy and social support) precipitates exhaustion. Academic self-efficacy showed the strongest protective effect, reducing exhaustion and cynicism, consistent with the findings of Ye (2021) and Angelopoulos et al., who highlight its mediating role between stress and burnout.

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