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The relationship between academic/professional burnout and migraine chronicity

Ana Clara Oliveira Lima, Maria Eduarda Silva Guimarães, Eduardo Santana Fernandes Filho, Clarissa da Paixão Barboza Salgado, Alberto de Faria Santana, Miguel Antônio de Sá Mafra Aragão, Arthur Ferreira Cavalcanti, Gabriel da Costa Kuhn, Livian Gabrielle Fontes Barreto, Luis Antônio Gabriel Boaventura, Maria do Carmo Santos Neta, Newton Vital Figuereido Neto, Breno Silva Fonseca Costa

Tiradentes University, Aracaju, Sergipe, Brazil

Ana Clara Oliveira Lima
ana.colima@souunit.com.br

Introduction
Burnout Syndrome, characterized by physical and mental exhaustion resulting from chronic stress in academic and professional environments, has been identified as a significant risk factor for the exacerbation of neurological conditions. Migraine, a disabling primary headache, can evolve from episodic attacks into a chronic condition (≥15 days per month) when mediated by persistent environmental and psychological stressors. Understanding this relationship is vital for developing early intervention strategies and supporting worker and student health.

Objective
To investigate and synthesize current scientific evidence regarding the correlation between academic/professional burnout and the process of migraine chronification.

Methods
A systematic review was conducted across national and international databases, including SciELO, VHL (Virtual Health Library), PubMed/PMC, SAGE Journals, Springer, and Wiley Online Library. Inclusion criteria comprised scientific articles, cohort studies, and scoping reviews published between 2014 and 2025 in Portuguese and English. The descriptors used were: "Burnout", "Migraine", "Chronicity", "Academic Stress", and "Occupational Stress".

Results
The prevalence of migraine in high-pressure academic environments, such as medical schools, was found to range between 36.8% and 38.8%, with exam periods acting as triggers for 66% of students, resulting in declines in Grade Point Average (GPA) and absenteeism. A significant association was observed between burnout syndrome and levels of depression, anxiety, and stress. Age showed a negative correlation with burnout, indicating a lower occurrence of the syndrome in older individuals. Weekly workload and higher educational levels were associated with increased burnout scores. Pathophysiologically, the chronic stress characteristic of burnout induces a state of neuronal hyperexcitability and central sensitization of the trigeminovascular system, a fundamental process for the transformation of episodic migraine into its chronic form.

Conclusion
Burnout is not merely a consequence of exhaustive work, but a biological and psychosocial catalyst for migraine chronicity. This relationship exhibits a bidirectional nature: while exhaustion reduces pain tolerance thresholds due to dysregulation of the HPA (hypothalamic-pituitary-adrenal) axis, chronic pain exacerbates feelings of professional ineffectiveness and social isolation. Mechanisms such as cognitive fusion prevent emotional detachment from stressors, perpetuating a state of sterile neuroinflammation that feeds back into the attacks. Furthermore, low occupational and academic autonomy limits an individual's capacity to implement self-care strategies, consolidating the cycle of chronification. Therefore, mitigating this condition transcends isolated pharmacological treatment, necessitating psychopedagogical support and labor reorganization.

Keywords:
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Burnout professional
Chronic migraine

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