Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Letter to the Editor Regarding "Burnout Among Neurosurgeons and Residents in Neurosurgery: A Systematic Review and Meta-Analysis of the Literature"

Letter:

We congratulate Zaed et al[1] on their systematic review and meta-analysis on burnout syndrome (BS) in neurosurgery: We believe that their results uncover a Pandora's box, demonstrating that BS is a silent enemy for us all. In medicine, the BS triad of exhaustion, cynicism (a.k.a. depersonalization), and feeling of inefficacy have been underestimated for far too long, mostly due to elusive hard data on their prevalence. However, as neurosurgeons we learned soon during our training that the pathologies we treat can be daunting, not only because neurosurgical procedures are extremely draining from a physical and psychologic perspective (on both patients and surgeons) but also because their prognosis can be dismal even when state-of-the-art protocols and the latest technical innovations are applied.[2,3]

During the COVID-19 pandemic there has been an overflow of studies, particularly collaborative ones, focusing on this aspect of our practice. In particular, it has been argued that BS can have different incidents in neurosurgeons working in public, academic, and private settings.[4,5] Similarly, the evidence that BS can affect in various ways trainees and specialists has been pointed out in qualitative studies.[6,7] For this, we found the subgroup analysis performed by Zaed et al[1] on neurosurgeons versus neurosurgical residents very much relevant for the entire community and for the future of our training programs.

On the other hand, their study suffers from various limitations, both from a methodology perspective and in terms of the suggested line of sight for pragmatic improvements of our working condition. For instance, a funnel plot analysis should have been considered when assessing the results on their meta-analysis. In fact, it would have been interesting to weigh a possible funnel plot asymmetry against its possible causes, which include not only reporting biases but also heterogeneity, overestimation of data drawn from small cohorts, and chance.[8]

Additionally, meta-analyses are meant to explore the magnitude of a given effect, in this case the impact of BS on the neurosurgical workforce, with the purpose to propose new policies and influence decision makers. Unfortunately, in their article this last step is missing. While Zaed et al[1] suggest new studies, we would have been interested in knowing which improvement projects they would have suggested on the basis of their findings. Our opinion is that coaching programs, like those instituted by the NHS Leadership Academy in the United Kingdom (https://www.leadershipacademy.nhs.uk/resources/coaching-register/) to reduce anxiety and increase job satisfaction in health care professionals, would be a good starting point and could be replicated elsewhere.[9,10] In summary, data are only useful to recognize a problem and monitor it over time; with our letter we would like to stress that the multidimensions of BS and how it affects our community call for solutions that can be reached only through a wider discussion among all neurosurgical stakeholders.

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