

## LETTER

**Burnt-out leprosy: The origin of the concept of psychological burnout**Carlos Franco-Paredes<sup>a,b</sup> & Jose Tuells<sup>c</sup><sup>a</sup>Colorado State University, Colorado, USAORCID: <https://orcid.org/0000-0001-8757-643X><sup>b</sup>Hospital Infantil de México, Federico Gomez, México City, México<sup>c</sup>Department of Community Nursing, Preventive Medicine, Public Health and History of Science, University of Alicante, 03690 Alicante, SpainORCID: <https://orcid.org/0000-0003-1159-429X>

Submitted and accepted 6 December 2022

*Keywords:* Anesthetic foot, leprosy diagnosis, Graham Greene

The Ridley–Jopling staging was introduced in 1962 and 1969 to describe the spectrum of leprosy based on clinical features, histopathology, the degree of the cell-mediated immune response against *Mycobacterium leprae*, and bacterial load.<sup>1,2</sup> Before implementing the Ridley–Jopling staging, there were many attempts to define the spectrum of clinical forms and stages of leprosy. In 1924, Muir proposed a classification that described nerve involvement and skin manifestations.<sup>3,4</sup> This classification described nerve injury as A<sub>1</sub> for evidence of early nerve involvement and A<sub>2</sub> for burnt-out (advanced nerve injury with loss of sensation or limb loss), B<sub>1</sub> for early skin involvement, and B<sub>2</sub> for moderate skin lesions. In the Muir classification, burnt-out leprosy describes patients with long-standing nerve injury. This nerve dysfunction would manifest with profound loss of sensation, marked atrophies, contractures, trophic ulcers, and mutilations (limb loss).<sup>3</sup> During the annual leprosy meeting in Manila in 1931, experts recommended substituting the term ‘burnt-out leprosy’ for ‘arrested leprosy’, with mutilation. Many clinicians continued describing patients with tuberculoid and borderline leprosy as ‘burnt-out’ when the disease self-healed. They had a negative bacterial index, but patients developed significant nerve loss and disability.<sup>3–5</sup>

We explored the potential historical link between the term ‘burnt-out’ used as an adjective in the pre-antibiotic area to describe an advanced stage of nerve injury in patients with leprosy and the contemporary use of the concept of burnout referring to a negative psychological state of mind in the workplace. The current use of the noun ‘burnout’ represents the psychological

Correspondence to: Carlos Franco-Paredes, MD, MPH, Department of Microbiology, Immunology, and Pathology, Colorado State University, Fort Collins, Colorado, USA (e-mail: [Carlos.franco-paredes@colostate.edu](mailto:Carlos.franco-paredes@colostate.edu))

state in which individual experiences reduced motivation to achieve optimal outcomes with a decline in the quantity and quality of work produced in one's professional role.<sup>6,7</sup> The term 'burnout' in clinical psychology was initially used in the early 1970s by the North American psychiatrist Herbert Freudenberger.<sup>7</sup> Since then, burnout encompasses a spectrum of mental conditions ranging from depression to compassion fatigue related to specific occupations.<sup>8–10</sup> Dr. Freudenberger cited the occurrence of burnout among caring professionals in emotionally demanding roles, such as healthcare providers and first responders.<sup>7,9</sup> Human error by air traffic controllers linked to air accidents in the 1960s and 1970s raised awareness about workplace burnout and the institution of organizational and individual interventions addressing resource and stress management.<sup>8</sup> Burnout is considered a negative consequence of healthcare workers' unrelenting demand for altruism.<sup>9</sup> Not surprisingly, burnout has been frequently cited among healthcare workers during the COVID-19 pandemic.<sup>9</sup>

The modern use of psychological burnout can be traced back to the 1960 novel "A *Burnt-Out Case*" by the British novelist Graham Greene.<sup>10</sup> In this account, the main character, Querry, arrives via the bishop's riverboat through the Congo River to aid in a leprosy colony (leproserie) run by Catholic priests and nuns in the then-Belgian Congo (now the Democratic Republic of Congo). Greene dedicated this book to Dr. Michael Lechat, with whom he spent time in Yonda, a large leprosy village near the Congo River.<sup>11</sup> Greene describes Dr. Colin as the fictional character representing Dr. Lechat, a skilled and dedicated physician. Querry, a famous European architect, arrives at the village, escaping from his previous life as he feels that his vocation to design buildings and his desire to live have been extinguished. As Dr. Colin becomes acquainted with Querry's mental state, he compares Querry's emotional numbness to a burnt-out case of leprosy. The defining feature of burnt-out leprosy is a long history of untreated infection associated with advanced nerve damage that produces numbness and loss of all types of sensation.

We conclude that the contemporary use of burnout as a mental state of emotional numbness and psychological depletion originates in Greene's novel. However, Dr. Freudenberger was responsible for the everyday use of the concept of burnout in clinical practice as a negative psychological state that occurs in occupational settings.

### **Conflict of interest**

All authors no financial conflicts of interest to report.

### **References**

- <sup>1</sup> Ridley DS, Jopling WH. A classification of leprosy for research purposes. *Lepr Rev*, 1962; **33**: 119–128.
- <sup>2</sup> Ridley DS, Jopling WH. Classification of leprosy according to immunity – a five group system. *Int J Lepr Other Mycobact Dis*, 1966; **34**: 255–273.
- <sup>3</sup> Muir E. Leprosy, self-healing disease. *Lancet*, 1924; **1**: 277–280.
- <sup>4</sup> Balina LN, Jotimliansky L, Sasiain MC, Minnucci F, Kien C, Chouela E. Immunology of a burnt out lepromatous leprosy patient. *Int J Leprosy*, 1992; **60**(1): 102–104.
- <sup>5</sup> Lepore J. Burnout: Modern affliction or human condition? *The New Yorker*, 2021.
- <sup>6</sup> Freudenberger HJ. The issues of staff burnout in therapeutic communities. *J Psychoactive Drugs*, 1986; **18**(3): 247–251. doi:10.1080/02791072.1986.10472354.
- <sup>7</sup> Samra R. Brief history of burnout. We have much to learn from established countermeasures in aviation. *BMJ*, 2018; **363**: k5268.
- <sup>8</sup> Listopad IW, Michaelsen MM, Werdecker L, Esch T. Bio-psycho-socio-spirito-cultural factors of burnout: a systematic narrative review of the literature. *Front Psychol*, 2021; **12**: 722862. doi:10.3389/fpsyg.2021.722862.

- <sup>9</sup> Raudenská J, Steinerová V, Javůrková A, Urits I, Kaye AD, Viswanath O, Varrassi G. Occupational burnout syndrome and post-traumatic stress among healthcare professionals during the novel coronavirus disease 2019 (COVID-19) pandemic. *Best Pract Res Clin Anaesthesiol*, 2020; **34**(3): 553–560. doi:10.1016/j.bpa.2020.07.008. Epub 2020 Jul 18.
- <sup>10</sup> Greene G. *A Burnt-Out Case*. New York, NY: Bantam Books, 1960.
- <sup>11</sup> Lechat M. Graham Greene at the Leproserie. *London Rev Books*, 2007; **29**(15). Available at: <https://www.lrb.co.uk/the-paper/v29/n15/michel-lechat/diary> (Accessed 04 December 2022).