

Neurophobia: challenges and solutions

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The unfavorable attitude toward neurology, a phenomenon commonly referred to as neurophobia, is prevalent among medical students and junior doctors at times in their medical education. Professor Ralph Jozefowicz, in 1994, coined the term “neurophobia” to refer to the fear of neural sciences and clinical neurology arising from the inability of students to integrate basic knowledge of neural sciences into their clinical practice.¹ He reported that approximately half of medical students perceived basic neural sciences and clinical neurology curriculum to be challenging with a resultant distaste for, and later, a disinterest in the field. Recent surveys have demonstrated a higher prevalence of neurophobia in developing countries, reported to affect two-thirds or more of medical undergraduates.² Ultimately, the inadequacy of specialists in the field has the potential to negatively impact the future care provided to patients with neurological disorders. In this article, we aim to uncover the reasons behind the perceived fear of the complexities of neurosciences and propose potential solutions.

The burden of neurological diseases is increasingly prevalent in an ever-aging population and constitutes around 5-10% of acute hospital admissions.³ Similarly, the proportion of patients consulting their family doctors with a neurological problem is also high (about 10% per annum). The high prevalence of neurological diseases coupled with the shortfall of specialist neurology services globally necessitates improvement in nonspecialists’ understanding and knowledge of neurology. However, most non-neurologists feel uncomfortable when dealing with a neurological complaint, bearing in mind that neurology has a reputation for being one of the most challenging medical specialities.

There are several potential elements which may predispose those in the medical field to neurophobia. To begin with, current medical education and poor exposure to quality neurology teaching and training appear to be major contributory factors. Most medical schools teach basic neurological sciences (e.g., neuroanatomy and physiology); separate from the clinical ones, leaving students puzzled by the vast information required to pass exams, only to forget it later. The late exposure to clinical neurology, which in some countries may only occur in the last year of medical school, is also likely to be responsible. We would argue, however, that integrating

the basic sciences with brief clinical problems would enrich the learning experience. Thus, knowledge is more likely to be clinically relevant and more likely to be remembered. Modern medical curricula have already adopted a spiral approach to undergraduate education with an increasing movement toward clinical reasoning and problem-based learning.

The lack of encouragement to pursue a career in neurology, either due to the relatively poor compensation compared to other specialities or the lack of available treatments for some neurodegenerative conditions, has also been suggested in some surveys.⁴ To change this misconception, neurologists must reflect the changing face of the speciality and that the field has already started moving the needle with active clinical trials showing meaningful therapeutic interventions. These developments have been witnessed across all the subspecialties of neurology with some areas advancing faster than others.

Furthermore, it is evident that the shape and the content of the teaching sessions directly affect the process of learning and knowledge acquisition. To overcome the deficiencies in preclinical and clinical neurology education, we believe that teaching neural sciences through interactive small group tutorials, bedside clinical teaching, short focused video sessions, and virtual seminars can be very effective in tackling the issue of neurology knowledge deficit.⁵ The interactive sessions can potentially improve learners’ interaction and engagement, especially if they are coupled with ample involvement of enthusiastic and passionate neurology educators. We believe this will allow early identification of students or trainees who require more help and reinforcement. In addition, constructive feedback sought from students and trainees would further enhance the learning opportunity. Similarly, we can appreciate the impact of the hidden curriculum, not to mention, the role modeling of neurology educators on the behavior of those students toward neurosciences. We have no doubt that enhancing the skills of neurologists as educators is a cornerstone in bridging the gap and turning neurophobia into a neurophilia.

Most students consider neurology so complex that it is considered a “mission impossible.” We appreciate that neurology is already an enriched field, and it will continue to evolve exponentially with developments

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in neuroscience. It is important, however, to urge students not to worry unduly and focus on the neurology curriculum appropriate to their level. It is worth pointing out that eliciting a detailed neurological history is of paramount importance (e.g., sudden onset of a deficit suggesting a vascular event or identifying stereotyped episodes pointing toward migraine or epilepsy). Likewise, recognizing certain patterns of neurology may facilitate knowledge retention among students (e.g., ascending weakness with areflexia in Guillain–Barré syndrome). It may also stimulate their appetite and encourage them to learn more. After formulating a history-driven hypothesis, performing a thorough neurological examination is another crucial step before drawing a list of sensible differential diagnoses and developing a plan of action.

Senior doctors may pass on an incompetent approach to neurological presentations to the more junior doctors and may also unknowingly transmit their apprehension of neurology to young doctors. We suggest the adoption of several strategies within hospitals to interrupt this cycle, such as the provision of periodic practical educational courses to medical doctors and general practitioners, and the introduction of a mandatory neurology rotation in the core medical training program. Increased interaction between neurologists and their general medical colleagues is also needed to promote their interest in neurology and kindle their “latent neurophilia.” Regular presentation of neurological topics in the medical grand rounds can help achieve this goal.

In conclusion, the implications of neurophobia remain under-recognised. Poor patient care, delayed discharge in an already overstretched health system, and a shortage of trainees pursuing a career in neurology may all be directly related to neurophobia. Efforts directed at exploring and addressing the roots of this problem

are strongly encouraged to enhance the quality of care provided to patients with neurological presentations.

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