Neurofobia Tem Cura
A Cure for Neurophobia

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ABSTRACT

Neurophobia is a term used to describe a combination of negative reactions observed among students when faced with theoretical concept of neurosciences. It is driven by the belief that this subject matter is excessively abstract and complex, and something of an "eccentric branch" of medicine. The small number of professionals who display an interest in this specialty may be related to a rejection of the subject since their university days. The author attributes the perpetuation of neurophobia to two main factors: the fragmented way in which neuroscience is presented in the basic syllabus and the lack of a proactive attitude among some teachers to bring down the barriers that separate their knowledge from that of their students. In conclusion, proposals for overcoming neurophobia are suggested, which include presenting neurosciences in a more contextualized manner since the start of medical education and teachers adopting a more integrative posture in building bridges to connect new concepts to preexisting knowledge.

Dear Prof. Olavo Franco Ferreira Filho, Editor,

Please accept my warmest greetings to yourself and to the authors of the article *Neurophobia in Brazil: Detecting and Preventing a Global Issue*[1]. Considering my privileged position as a neurologist and my previous experience as a teacher of neuroanatomy and neurological semiology, and as a preceptor of neurology residents, I kindly ask for the opportunity to discuss some observations I have made in my experience of teaching neurosciences. I therefore intend to expose two impressions I have and subsequently discuss the associated arguments.

The first question refers to the fragmented way in which neurosciences are generally presented to new students during neuroanatomy and neurophysiology courses. The second is related to the posture – often removed from the neurophobic student – adopted by the neuroscientist, when in the role of teacher. The arguments are as follows.

Although criticism of the Flexnerian medical education model is already well consolidated in the literature and the broad notion that medical education is better received when presented in the context of a case or problem of eminently practical application[2], this approach has yet to have been incorporate by many of our neuroscience teachers, for a variety of reasons. One of them is the fact that the few who are passionate about this field have professional backgrounds in practices that address the comprehensive view of the individual. It is not uncommon for these professionals to be highly specialized brain surgeons and/or researchers in basic neuroscience. The classes often focus on themes such as the physiology of ion channels and microscopic neuroanatomic pathways, the functions of which are a complete mystery to students at this phase. Students are frequently presented to neurons from the basis of their teachers' doctorate theses or details of neurosurgical routine work that are entirely removed from the new student's possibility of understanding.

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The second argument relates to the power/knowledge relations exercised by the doctor in relation to his or her patients, which are very often transposed into the relationship between the teaching doctor and the medicine student. Foucault[3] clearly establishes this typically unconscious relationship, whereby the teacher uses his or her knowledge in a spiteful manner, sometimes to obtain the admiration or recognition of the students bearing in mind the supposedly inaccessible depth of his or her knowledge. And it is no secret for those engaged in any area of teaching that, sometimes, when faced with an underperforming class, the teacher opts to raise the difficulty level of the assessments, in the belief that this will motivate the students to invest more time in the subject and improve their learning curve. This is perhaps a strategy teachers employ to dispense themselves from the mission of making the subject matter more enjoyable, transferring exclusively onto the shoulders of the student the responsibility of learning by means of an even more arduous task.

Critics of Problem-Based Learning frequently question students' ability to fully understand how the nervous system falls ill without having any prior knowledge of the foundations of its structure and normal functioning. Indeed, the proposal for presenting the real world to the student earlier is not based on the expectation that he or she will learn about the health-disease process without knowing about physiology and anatomy. It is merely a question of seeking some contextualization, which can help spike the student's curiosity and enable the new microscopic and molecular knowledge to be applied to the real world. Understanding the anatomy of motor fibre crossovers in the decussation of the pyramids will gain objectivity upon witnessing a patient in accident and emergency with hemiparesis concurrent with ischemia of the opposite hemisphere of the brain, demonstrated by a CT scan. The physiology of the peripheral nerves will gain relevance if the student is actually experiencing the drama of patients with diabetic polyneuropathy in the primary care unit. In fact, the neuroscience itself of education argues that motivation and the capacity to correlate with previously experienced elements represent key factors for the assimilation of taught content.

The profile of the neurosciences teacher for the 21st century is an individual prepared for flexible critical questioning of generalist medical issues and who is closely in touch with debates of a social and emotional nature regarding cerebral functions. If lacking such a profile, the teacher is unlikely to feel comfortable about discussing a case of Parkinson's disease with a geriatric patient (who perhaps highlights the risk of falling and immobility), with a psychologist (who perhaps attempts to amplify the emotional dimensions related to the disease) and even less so with a philosopher (who might give more importance to the impact of the terminal condition of the life for the patient, the family and for the student him or herself).

I conclude by defending that overcoming neurophobia must necessarily involve the teacher/tutor reflecting on his new role in the light of the challenges to be faced in the contemporary notions of knowledge transmission and exchange. Furthermore, there is also a need for specific training for these actors, to raise their awareness regarding the importance of promoting a friendly dialogue with students and fellow teachers of various backgrounds. It is hoped that such training would broaden the medical teacher's understanding of how important it is to recognise and focus on the dimensions of health-disease process which lie outside their field of knowledge, even when related to pathologies that they treat in their clinical practice or about which they conduct research on laboratory benches.

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CONTRIBUIÇÃO DOS AUTORES

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CONFLICT OF INTEREST

None

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