Understanding the Genesis of “Neurophobia”: A Mixed-Methods Study of Trainees' Perceptions of Neurology Education

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Objectives: To examine the extent to which “neurophobia” exists among medical students, to determine if students’ perceptions of neurology differ by year of study and to explore the factors that contribute to the development of “neurophobia”.

Background: “Neurophobia”, or the avoidance of neurology by medical trainees, has been demonstrated in many studies; however, no studies have examined how and why it develops.

Design / Methods: We used a two-phase, sequential, mixed methods explanatory design in this single centre study. Phase 1 involved the collection and analysis of a questionnaire administered to students in the first 3 years of medical school. Phase 2 involved focus groups with a subgroup of students who demonstrated potential evidence of neurophobia in Phase 1.

Results: 152 questionnaires were completed (response rates of 36.8%, 44.3% and 18.7% for first, second and third year students, respectively). One-way ANOVAs showed that students’ perceptions of neurology differed significantly (p < .05) by year of study. Overall, 50% of first years, 30% of second years and 39% of third years answered one or more questions indicating they had a certain degree of neurophobia.

Phase 2 findings revealed many students reported negative preconceptions about neurology and commented on the difficulty and complexity of neurology. Some experienced changes in these conceptions following their neurology block. Past clinical, educational, and personal experiences in neurology impacted their comfort level. Reported barriers to learning included the lack of clinical application of knowledge, instruction using mainly didactic methods, and the complexity of concepts, terminology and language.

Conclusions: This study shows that neurophobia decreases following students’ participation in second-year neurology blocks, but that third year students continue to show signs of neurophobia. It also provides insight into why neurophobia exists amongst medical students and sheds light on pre-existing and emerging factors contributing to this sense of neurophobia.