

Neurophobia Unveiled Exploring Trainees' Perceptions and Challenges in Neurology Education

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Abstract

Neurophobia a term describing the fear and anxiety trainees experience towards neurology has been recognized as a significant barrier in medical education. Despite the critical role of neurology in clinical practice, many trainees report difficulty understanding neurological concepts and lack confidence in diagnosing neurological disorders. This study aims to explore the factors contributing to neurophobia among medical trainees, identify gaps in neurology education, and propose potential solutions to enhance the learning experience. A cross-sectional survey was conducted among medical students, residents, and fellows in various specialties. The survey assessed their perceptions of neurology, levels of confidence in diagnosing neurological conditions, perceived complexity, and overall interest in the field. Focus group discussions and interviews were conducted to gather qualitative insights into educational challenges. The findings revealed a significant prevalence of neurophobia among medical trainees, driven by perceptions of neurology as overly complex and difficult to apply clinically. Key challenges identified included inadequate teaching time, lack of interactive learning, and insufficient exposure to practical neurological cases. Participants expressed a desire for more hands-on neurology training, early clinical exposure, and simplified teaching methods. Neurophobia remains a prevalent issue in medical education, hindering trainees' engagement with neurology. Addressing this challenge requires a multifaceted approach that includes curriculum reform, increased practical training, and supportive learning environments.

Keywords: Neurophobia; Neurology education; Medical trainees; Clinical training; Curriculum reform; Learning challenges

Introduction

Neurophobia, a term coined in the late 1990s, refers to the fear and anxiety experienced by medical students and trainees when learning neurology. Despite its significance in medical practice, neurology is often perceived as one of the most difficult subjects to master, leading to low confidence and disengagement among learners [1]. This aversion to neurology poses a risk, as trainees may avoid the specialty or struggle with the diagnosis and management of neurological conditions in general practice [2]. The complex nature of neurological disorders, the abstract nature of concepts like neuroanatomy and neurophysiology, and the perceived lack of clinical relevance contribute to this issue. The purpose of this study is to explore the underlying factors that contribute to neurophobia among medical trainees, identify educational gaps, and propose solutions to improve neurology education and trainee confidence.

Methodology

This is a mixed-methods study comprising a cross-sectional survey and qualitative interviews. The study was conducted over a six-month period among medical trainees across different levels of education and specialties. Participants included medical students in their clinical years, residents, and fellows from various institutions [3]. Trainees from fields such as internal medicine, emergency medicine, and neurology were targeted to assess perceptions across a range of specialties.

Data Collection

Qualitative interviews and focus groups: In-depth interviews and focus group discussions were conducted with a subset of participants to explore personal experiences with neurology education and gather suggestions for improvement.

Data Analysis

Quantitative data from the survey were analyzed using descriptive

statistics and correlation tests to assess factors contributing to neurophobia [4]. Qualitative data from interviews were transcribed and analyzed thematically to identify key challenges and potential solutions in neurology education.

Results and Discussion

Quantitative Results

Prevalence of Neurophobia: The survey results indicated that 68% of participants reported feeling anxious or overwhelmed when learning neurology. This was particularly evident among medical students and residents in non-neurology specialties [5, 6]. Perceptions of complexity in neurology were consistently rated as the most complex specialty, with 74% of trainees indicating that they found neuroanatomy and neurophysiology difficult to understand.

Confidence Levels: Only 35% of participants felt confident diagnosing neurological conditions, and even fewer (28%) felt comfortable managing these cases in clinical settings. Curriculum gaps were a significant concern, with 82% of respondents believing that neurology teaching in their curriculum was insufficient, citing a lack of practical, hands-on learning and inadequate exposure to neurological cases [7, 8].

Qualitative Insights

Lack of Early Clinical Exposure: Many trainees reported limited

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exposure to neurology cases early in their medical education, which contributed to anxiety when encountering neurological conditions later in training. Teaching methodology participants expressed dissatisfaction with traditional lecture-based teaching, which they felt did not adequately prepare them for clinical practice [9]. They emphasized the need for more interactive and case-based learning. Trainees consistently highlighted the gap between theoretical knowledge and clinical application, particularly when diagnosing complex neurological conditions.

Discussion

The findings confirm that neurophobia is a widespread issue among medical trainees, influenced by both educational gaps and the perceived complexity of neurology. The lack of hands-on experience and insufficient teaching time dedicated to neurology exacerbates this issue [10]. To counter neurophobia, neurology education needs a shift towards more practical, case-based learning that emphasizes early exposure to clinical neurology. Additionally, simplified teaching of foundational concepts like neuroanatomy and structured, supportive learning environments can help demystify the subject for trainees.

Conclusion

Neurophobia continues to be a significant barrier in neurology education, affecting trainee confidence and interest in the field. The study highlights the need for reform in neurology curricula, with a focus on increasing clinical exposure, integrating interactive teaching methods, and offering more practical training opportunities. Addressing these challenges can help reduce the fear associated with neurology and better prepare medical trainees for real-world clinical practice. Future studies should evaluate the effectiveness of educational interventions designed to combat neurophobia and improve long-term outcomes for neurology education.

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Conflict of Interest

None

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