

What NEXT for Neurology Education and Assessment?

The editors of the Annals of Indian Academy of Neurology have accepted an unusual paper for publication in this issue titled “Scheme for The Conduct of National Exit Test in India Suggestions by Stakeholders.”^[1] The authors have suggested a three step scheme for the conduct of a single nationwide National Exit Test (NEXT) to bring uniformity in medical examinations. The ideas discussed and suggestions made are sensible, thoughtful, and interesting. Obviously, the paper is not related to neurology. However, it gives us an opportunity to think about the current state of neurology education and assessment (NEA) in India. We, the neurology teachers must realize that we are also stakeholders in the NEXT.

Neurology is an important component of teaching and assessment at the undergraduate and postgraduate (PG) level. It is taught and assessed by non-neurologists in many medical colleges. Ideally, that should not be the case. It should be a matter of inquiry on how input by neurologists would make crucial and meaningful differences. Neurology teachers must be contributing to creation of valid, reliable, and feasible methods and instruments to evaluate students and residents. Many of us are great teachers and examiners, but our skills, time, and attention are restricted to Doctorate of Medicine (DM)/ Diplomate of National Board (DNB) residents. We need to expand our gaze to Doctor of Medicine (MD) and Bachelor of Medicine, Bachelor of Surgery (MBBS) levels too.

Not only neurologists but, more importantly, general practitioners (GPs) and internists must be proficient in the clinical neurological examination and Bayesian decision-making process for diagnosis and management. We also need to devise, improve, and implement evidence-based teaching courses for non-neurologists in practice.^[2] As a teacher in a non-DM medical college, the present author has strongly felt the need and scope for improving neurology education at undergraduate (UG) and PG and GP level.^[3] Neurology teachers need to be trained and oriented toward an evidence-based objective assessment of students in theory and practice. The proposed establishment of the Central Board of Medical Education for NEXT should encourage neurology fraternity to develop something similar to the American Board for Neurology and Psychiatry (ABPN) for NEA.

Currently the NEA at DM/DNB is marred by wide variations in quality. Opening up of new residency programs and a rapidly increasing number of seats are posing challenges in ensuring quality and uniformity. Sadly, the clinical skills are being lost with neglect of bedside teaching at the cost of rote-memory-based multiple-choice-option-type examinations.

Research in NEA of examinees is neglected in India. We need to think about relevant and important research questions,

design of the experiment, collection of data, and rigorous statistical analyses. There are different theories about learning.

The G theory, for example, addresses the variance in scores associated with many facets like the student’s true ability, types of cases chosen, domains and items to be probed, and skills of the raters.^[4]

Traditional oral examination for DM/DNB neurology is at high risk of subjective bias. ABPN has long replaced the locally administered oral examination with a standardized neurology clinical skills examination (NEX).^[5]

Videotaped NEA events and encounters may be used for research purposes. Research is also needed to assess the competence of teachers and examiners. The validity and standardization of videotapes of NEA have not been probed in India.

The Objective Structured Clinical Examinations (OSCEs) in neurology at UG, PG, and DM level are another potential area for research in India to improve the validity and reliability of performance-based-assessment, wherein, examinees, rotate through a wide variety of standardized patients (SPs) or partial task trainers (PTTs).^[6] These methods have not caught the imagination of neurology faculty in India. Data from SPs using OSCE can be utilized to answer many more ingenious research questions. For example, one study confirmed the intuitive knowledge that one or other specific component of clinical reasoning (long-term supportive management for neurological diseases) may not be as good as others (acute diagnosis and therapy).^[7]

Whether we keep real or SPs in the practical examination, the selection should include both positive and negative appropriate findings. The emphasis should be on classical examples rather than infrequent, atypical, or esoteric ones. A lot of work is needed to develop high-quality scenarios, demonstrate the reproducibility and reliability of OSCE scores, and teach precise evidence-based neurological examination.^[8]

We will be doing well by establishing clinical skills laboratories to teach neurological examination and reduce neurophobia among students.^[9] “Scheduled bedside skills modeling” is another approach wherein students observe a clinical encounter for a comprehensive history and neurological examination, followed by questions and debriefing. An observation guide is supplied to residents with a checklist for many elements of symptoms and signs and spaces for notes and questions. Faculty are provided a preceptor guide. Many learning themes and subthemes can be identified. The effect of the modelling experiences on acquiring procedural and cognitive skills have been documented.^[10]

Direct observation of residents performing the neurological exam as recorded in a video format and offline assessment

by blinded faculty in quantitative and qualitative formats can be another research protocol. It would inform the teachers what are the common difficulties faced by students during neurological physical examination.^[11]

The softer, but no less important skills of empathetic and truthful communication between clinicians and patients and caregivers are even harder to assess, more so in neurology, which often involves the delivery of complex and difficult news and decision-making. "Cross sectional concurrent nested mixed methods" studies have utilized data collection by an electronic communication tracker along with qualitative survey questionnaires.^[12]

The imperative for research in NEA is very strong. There must be comprehensive quantitative and qualitative studies of hypothesis-driven observations or interventions on the acquisition of knowledge and skills, with lessons in pedagogy and assessment. Research in NEA will promote career development for neurology teachers. We will need to identify many diverse outcome measures, including the impact of educational programs on not only knowledge but also long-term physician behavior, patient safety, professionalism, and long-term career success.^[13]

A comprehensive review and discussion about many more research questions and research methods in NEA in global as well Indian context will be worthy of a lengthy monograph. It is high time that the executive committee and member community of the Indian Academy of Neurology (IAN) appreciate the importance of NEA and take lead in improving the neurology component of NEET and NEXT. In addition, they also became organized with respect to residency curricula, practices, methods, and assessments at DM/DNB level. Many activities may help in these tasks, like an expert group meeting, a satellite symposium, midterm conference, supplement of Annals of Indian Academy of Neurology, and dedicated subgroup.

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