Health literacy and medication awareness in outpatient neurology

Khichar Shubhakaran, MBBS, MD, Rekha Jakhar Khichar: We read an interesting letter by William Landau¹ on health literacy (HL) and medication awareness in outpatient neurology, submitted in response to an insightful article by Fleisher et al.² Low HL in neurology outpatients without dementia was associated with lower education, greater disease duration, each 1-point decrease in the Folstein Mini-Mental State Examination, and the presence of a caregiver. Previous studies have found low HL to be a common, independent predictor of morbidity, mortality, and excess resource utilization.^{3,4}

Stroke is the third largest killer in India and the second largest killer in the world according to the WHO.⁵ More than 1.5 million people have strokes in India each year.⁵ A negligible number reach medical facilities in time because of lack of awareness of stroke-related screening and treatment modalities. Average age of patients with stroke in developing countries is 10–15 years lower than that in developed countries.^{5,6} In India, nearly one-fifth of patients with first-ever strokes admitted to hospitals are aged 40 years.⁵

Given the high prevalence and complexity of neurologic disease, it is important for neurologists in developing countries to recognize low HL in their patients and take steps to overcome it. As clinicians, we must incorporate specific communication and patient education strategies into our daily practice to optimize our patients' care. Governmental and nongovernmental organizations and schools should assist by incorporating integrated health education programs into their curricula.

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Authors Respond: Jori Fleisher, MD, Roma Bhatia, BA, Colton Margus, BA, Amy Pruitt, MD, Nabila Dahodwala, MD, MS: We appreciate the letter from Drs. Shubhakaran and Khichar regarding the burden of stroke in India^{5,6} and the importance of considering low HL in this setting. They highlight the disparities in care and health outcomes that exist in many low- and middle-income countries; for example, while the incidence of stroke in high-income countries declined by over 40% in the past 4 decades, low- and middle-income countries saw a greater than twofold increased incidence and 3.5-fold higher stroke mortality rate.⁷

We agree that a significant contributor to stroke morbidity and mortality is lack of awareness of screening and treatment modalities, and low HL plays a crucial role in this relationship. In our communication with individual patients and in patient education strategies—be they brochures or public service radio announcements—using simple, plain language to relay our top “take-home” messages is key. As Drs. Shubhakaran and Khichar point out, improving health education programs in schools and incorporating creative approaches to neurologic disease awareness may be an effective global means of building HL. For example, an innovative program teaching fifth- and sixth-grade students about stroke led to significant improvement in parental stroke literacy.⁸ Low HL and limited public awareness of neurologic symptoms are universal issues and must be addressed in a multipronged approach.

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Managing loss of intrathecal baclofen efficacy: Review of the literature and proposed troubleshooting algorithm

Joe Ordia, MD, FACS, Julien Vaisman, MD: We congratulate Boster et al.¹ for proposing a troubleshooting algorithm for loss of intrathecal baclofen (ITB) efficacy.

The catheter accounts for most of the problems with ITB. We are concerned that the algorithm excludes contrast study, and indium scan, for assessing catheter function. The authors recommend catheter replacement if catheter access port (CAP) aspiration is negative or inconclusive. The result is likely to be some unnecessary surgeries. Vender et al.^{2(p14)} cautioned, “often, a functional catheter will not aspirate CSF. This does not prove that a catheter occlusion exists.”

CAP aspiration is not a stand-alone test. Aspiration empties the catheter of baclofen before injecting Omnipaque (GE Health care, Buckinghamshire, UK). Flow is visualized by fluoroscopy or spiral CT. Contrast is not injected if fluid cannot be aspirated. If the patient is stable, radionuclide study should be considered. Indium-111 is injected into the pump reservoir. Scans are acquired 3 days later. The study can provide accurate information about catheter patency, occlusion, leak, and even mechanical pump failure.³

If fluid cannot be aspirated from the CAP for catheter contrast study, indium scan through the reservoir should be considered to confirm that a catheter problem actually exists.

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Disclosures: J. Ordia serves on a data safety monitoring board for Intrinsic Therapeutics; is author on a patent re: Removable hub tunneling needle; receives publishing royalties for *Dafidi and Abdul: Beyond Friends* (Trafford Publishing, 2009); serves as a consultant for Codman, a Johnson & Johnson company. J. Vaisman is author on a patent re: Removable hub tunneling needle.

Authors Respond: Aaron Boster, MD, Jacqueline Nicholas, MD: We thank Drs. Ordia and Vaisman for their interest in our article.¹ As stated in our conclusion, no single troubleshooting algorithm can diagnose every possible cause of loss of ITB efficacy (LOE). We find our proposed algorithm to efficiently identify most problems commonly seen in the outpatient clinic, without ready access to advanced imaging. In the setting of LOE, the inability to aspirate a catheter provides confirmation of catheter malfunction. As a point of clarification, we recommend further diagnostic testing for an inconclusive/abnormal CAP aspiration, not immediate catheter revision. We omitted several commonly used diagnostic tests because, although they may help identify the cause of a system malfunction, they do not change the

need for system replacement when a clinical LOE has already been identified. Given that DTPA nuclear scintigraphy is costly, requires ≥ 2 days to perform, has low sensitivity, and requires precise flow rate calculations to predict the timing of final imaging acquisition, we do not recommend this as a common practice.

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Neuroimaging of first-ever seizure: Contribution of MRI if CT is normal

Khichar Shubhakaran, MBBS, MD, Rekha Jakhar Khichar: We read the interesting study pertaining to neuroimaging in first-ever seizure by Ho et al.¹ In the era of modern imaging, CT and MRI are the modalities of choice, along with EEG. Imaging helps rule out structural lesions, which at times require medical treatment, e.g., tuberculoma and neurocysticercosis, in addition to seizures. Some of these patients also require surgical excision of neoplasms and various surgical procedures for prevention of seizures. Here MRI will be superior to CT, as the authors observed in their study. MRI studies have elucidated the various congenital abnormalities like heterotopias that ultimately may require surgery. MRI should be the modality of choice if it is available except when the patient or other technical problems do not permit it. Furthermore, patients with focal-onset seizures not easily controlled on antiepileptic drugs should undergo MRI. Repeated CT for follow-up also adds to radiation hazards.

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Authors Respond: Kevin Ho, MBBS, Nicholas Lawn, FRACP, Michael Bynevelt, FRANZCR, Judy Lee, BA (Nsg), John Dunne, FRACP: We thank Drs. Shubhakaran and Khichar for their comments on our article.¹ We agree that MRI is the optimal neuroimaging modality in epilepsy. However, we demonstrated that in patients with a first-ever seizure, CT provides important diagnostic and prognostic information and is generally sufficient to exclude an important structural cause of the seizure. In a cost-constrained environment, MRI could be reserved for those with recurrent seizures or focal abnormalities on EEG.

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Neurology goes global: Opportunities in international health

Nitin K. Sethi, MD: I read with interest the article by Fleisher and Mateen¹ on the globalization of neurology and the methods and means by which neurologists from high-income countries (HIC) can contribute to as well as benefit from interaction with their colleagues in low- and middle-income countries (LMIC).

Let us not forget that the globalization of neurology should be 2-way traffic. For neurology to truly go global, it should be practiced without borders in which there is free exchange of ideas, technology, and health care professionals between HIC and LMIC. Sponsoring residents and faculty from LMIC for short (2 months) to long (6 months to a year) neurology electives in HIC is one such neglected need. As things stand at present, the flow is unidirectional, with some neurologists from HIC traveling to LMIC, at times, for medical tourism. In addition, there is a brain drain, with physicians from LMIC moving to HIC for residency and fellowship training. Once their residency is over, they frequently do not return to their country of origin for fear that once they leave there is no way back. With the ongoing US global war on terrorism, the State Department has made it increasingly difficult for professionals from LMIC to travel to the United States for observerships for fear that they may not return or may indulge in antistate acts. These fears to a large extent are unfounded. If the restrictions to their travel are relaxed, physicians and neurologists from LMIC are likely to come to HIC, stay for a short time, gain skills, and return to their home countries, where they can adapt them to meet current unmet needs.

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Disclosures: N. Sethi serves as Associate Editor for *The Eastern Journal of Medicine*.

Mamta Bhushan Singh, MD, DM: The interesting article by Fleisher and Mateen¹ supplies insight and suggestions as to how a physician can approach neurology in LMICs and make a significant contribution in the often bleak situation existing in LMICs. I agree with most of their conclusions and, if handled well, both sides win. However, there has to be a departure from approaching global health only from the perspective that the West is the giver while the LMICs are the takers. For this movement to thrive, we have to find a more balanced relationship between the two; we need to explore and enunciate not only the benefits that the LMICs derive but also any advantage or opportunity that is provided to the neurologist who comes from a high-income setting. LMICs, as recognized by the authors, are heterogeneous, and their needs and what they offer to visiting neurologists vary from country to country. Most LMICs provide visiting neurologists an abundance of clinical exposure and learning opportunities for honing their clinical skills, exceeding what they may have in their own countries. For example, a scarcity of investigations and a reluctance to perform expensive tests means that greater reliance is attached to history-taking and clinical examination in India. Several neurology colleagues who have visited All India Institute of Medical Sciences, New Delhi, have been amazed at the variety and numbers of patients who present to this hospital. Overseas trainees have told me that a particular case was the first that they got to see after years of having only read about it. Some of these diseases are not found in the West, and there are others that are rare in the West but fairly common in our population because we are a populous country. Another learning point for visiting neurologists might be the innovative modification of techniques, tools, and therapies in LMICs, which makes providing care more cost-effective while maintaining acceptable standards of care. Global health has a long journey ahead and readjustment in perspective may make it a more rewarding experience for all of us.

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Authors Respond: Jori E. Fleisher, MD, Farrah J. Mateen, MD, PhD: We thank Drs. Sethi and Singh for their comments on our article¹ and agree with their points. Given the space limitations of the article, we narrowed our focus to the unidirectional opportunities for neurologists from HICs traveling to LMICs, as Dr. Sethi points out. However, for patients worldwide to benefit from all that neurologists have to offer—and for neurologists in all settings to learn from such patients and each other—it is critical that bidirectional partnerships be nurtured and “duffle bag medicine”² be avoided. The American Academy of Neurology offers scholarships for neurologists in LMICs to attend the annual meeting; however, we must look beyond such brief visits to creating sustainable programs for clinical experiences. Such partnerships would not only benefit both the visiting and hosting neurologists, but might help stem the brain drain³ by building long-term relationships and providing a forum for remote consultation and networking once the visitor returns home. While there are numerous contributing factors to brain drain, empowerment of neurologists in LMICs with training in clinical, public health, and health services research while visiting HICs might further establish their value within their communities, reducing the drain.

Dr. Singh notes the many overlooked benefits to visiting neurologists traveling from HICs to LMICs in terms of broadened clinical exposure to rare conditions and innovative techniques and therapies. Such experiences carry over to the provision of care once the visiting neurologists return to their home countries, expanding differential diagnoses and often fostering more cost-effective, patient-centered care without unnecessary overtesting. We second the issues raised by Drs. Singh and Sethi and encourage our colleagues to think broadly about the opportunities for give and take in global neurology.

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Current controversies: Physicians vs Pharma

Khichar Shubhakaran, MBBS, MD, Rekha Jakhar Khichar: We read with interest 2 articles^{1,2} that elaborated on the relationship between Pharma and physicians. A leading Supreme Court lawyer in India recently stated that “the law is to give justice rather than to give earning.” Likewise, we believe medicine is to cure disease and not to earn money; medical science is to serve mankind rather than be a business. A recent article by Kiran Majumdar-Shaw³ in *The Times of India* offered additional insight. The article quotes a famous declaration by George Merck, president of Merck & Co. in 1929: “We try never to forget that medicine is for the people. It is not for the profits. The profits follow, and if we have remembered that, they have never failed to appear. The better we have remembered it the larger they have been.”³ Shaw observes that “(b)y putting a high price on a drug, we are putting a price on life.”³ Medical journals have also addressed how corruption is having a corrosive effect on the doctor–patient relationship in India, implicating inequality, privatization, and huge out-of-pocket expenses as important reasons for corruption.⁴ Private sector health services should be monitored by government agencies and there should be a uniform code of conduct; these are lacking in India, the largest democracy in the world.

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Author Responds: John R. Corboy, MD, FAAN: I appreciate the letter on the relationship between physicians and Pharma¹ from Drs. Shubhakaran and Khichar, who offer another perspective from India, the world's largest democracy, and a country with a vastly different, and perhaps more inequitable, health care system than that present in the United States. They highlight corruptive practices in India, such as kickback schemes for referrals to diagnostic centers,² that not only increase the cost of medical care, but diminish the trust between patients and physicians that sits at the core of our relationship. While we would like to think this type of corruption does not happen in the United States, is it really very different from a neurologist in the United States who self-refers patients to the MRI or infusion center that he or she owns? Do these types of referral patterns alter the practice of physicians and the suggestions they make to their patients? Perhaps yes, perhaps no. Interactions between Pharma and physicians are but one type of potential conflicts of interest that we need to navigate while caring for our vulnerable patients, and keeping their interests at the apex of our thought processes—right where they should be.

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