EDITORIAL

Project for a Scientific Psychiatry
Neuroscience Literacy

Stephan Heckers, MD

Good psychiatric practice requires the diagnosis and management of abnormal mental states and abnormal behavior. But it is not essential to know the neural mechanisms of psychiatric disorders. Psychiatric formulations may include a neuroscientific perspective, but often do not. This is in stark contrast to the rest of medicine, where assessments of the human body (physical and neurological examination) are essential and treatment is monitored with biological data.

Viewpoint

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The training of psychiatrists in the United States is still brainless.[1] To become a board-certified psychiatrist, only 2 months of training in clinical neurology are required. After 4 years of residency training, most graduates start their lifelong career as psychiatrists with little knowledge of clinical neuroscience.

Many have lamented this state of affairs.[2] Some have asked for a new discipline, Clinical Neuroscience, that forces a joint training of psychiatrists and neurologists.[3] Others recommend that we train a new generation of psychiatrists, who are willing to spend considerable time studying the brain.[4] These efforts are laudable, but will attract only a small number of medical students.

What we need is neuroscience literacy for all psychiatrists. New discoveries in human neuroscience will be adapted by the majority of psychiatrists if the new knowledge is essential for assessment and treatment planning. We need neuroscience literacy to become as crucial for good psychiatric practice as empathy already is.

In this issue, *JAMA Psychiatry* starts an effort to promote neuroscience literacy. We will publish Clinical Challenges together with Reviews of the relevant neuroscience. The inaugural pairing of these 2 article types is the case presentation of a young veteran with posttraumatic stress disorder (PTSD) and a review of the neurobiology of PTSD including fear conditioning, dysregulated neural networks, abnormal memory function, and genetic/epigenetic factors. These neurobiological findings and concepts explain some of the clinical features of the illness and provide a framework for the evaluation of pharmacological and nonpharmacological treatment options.

The authors of the clinical case, Melissa R. Arbuckle, MD, PhD, Michael J. Travis, MD, and David A. Ross, MD, PhD, are leaders of psychiatry residency training programs at Columbia University, the University of Pittsburgh, and Yale University, respectively. They partnered with Kerry Ressler, MD, PhD, a prominent PTSD researcher, to write the Review. Their effort grew out of the National Neuroscience Curriculum Initiative (NNCI), a remarkable initiative to improve the dissemination of neuroscience knowledge among trainees in psychiatry. Our series of Clinical Challenge and Review complements these efforts by the NNCI. We invite the psychiatric community to submit similar pairs of manuscripts (Clinical Challenge and Review) to the journal.

Most psychiatrists embrace a pluralist view: they consider biological, social, and psychological factors in their case formulation. While this reflects the current state of psychiatric knowledge, it leaves room for considerable bias. Since there is no agreed upon hierarchy in the bio-psycho-social model, it is left to the individual clinician to make sense of the patient. Many will focus on just some of the perspectives and will not attempt to synthesize the different viewpoints into a unified formulation. In fact, many clinicians will seek out a psychiatric practice that fits their own preference for biological, psychological, or social interpretation.

This ignores the fact that neural mechanisms are at play in every abnormal mental state or behavior. The project for a scientific psychiatry has not changed: we need to discover how the abnormal brain gives rise to the abnormal mind. Then we can make sense of mental illness.

ARTICLE INFORMATION

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