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Factors that change our brains

I greatly enjoyed Dr. Nasrallah's editorial, "Your patient's brain is different at every visit" (From the Editor, CURRENT PSYCHIATRY, May 2019, p. 6,8,10). This is my first time writing to CURRENT PSYCHIATRY, and the journal's focus and articles have been informative and impactful throughout my training and in my current practice.

In reading this editorial, it is clear that a myriad of factors we consider and address with our patients during each visit underly intricate neurobiologic mechanisms and processes that ever deepen our understanding of the brain. In discussing the changes taking place in our patients, I can't help but wonder what changes are also occurring in our brains (as Dr. Nasrallah noted). What would be the resulting impact of these changes in our next patient interaction and/or subsequent

interaction(s) with the same patient? Looking through the editorial's bullet points, many (if not all) of the factors contributing to brain changes apply equally and naturally to clinicians as well as patients. In this light, the editorial serves not only as a broad guideline for patient psychoeducation but also as a reminder of wellness and well-being for clinicians.

As a "fresh-out-of-training" psychiatrist, I can definitely work on several of the factors, such as diet and exercise. Trainees and residents can be more susceptible to overlook and befall some of these factors and changes, and may already be basing the clinical advice they give to their patients on these same factors and changes. As a child psychiatrist, I value the importance of modeling healthy behaviors for my patients, and their families and with coworkers or colleagues. In accordance with the impact these factors have on our brains, it's important to emphasize what we can do to further strengthen rapport and therapeutic value through modeling. I strive to model the desired behaviors, attitudes, and dynamics that are the external, observable manifestation or symptomatology of what takes place in my brain. To do so, I understand I need to be mindful in proactively managing the contributing factors, such as those listed in Dr. Nasrallah's editorial.

I imagine patients and their families would easily notice if we are in suboptimal physical and/or mental health that results in us not being prompt, fully engaged, or receptive. I believe that attending to these facets during training falls under the umbrella of professionalism. Being a professional in our field often entails practicing what we preach. So, I'm grateful that

what we preach is informed by our field's exciting research, continued advancements, and expertise that benefits our patients and us professionally and personally.

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Dr. Nasrallah responds

I would like to thank Dr. Liu for his thoughtful response to my editorial. He seems to be very cognizant of the fact that experiential neuroplasticity and brain tissue remodeling occurs in both the patient and physician. I admire his focus on psychoeducation, wellness, and professionalism. He is right that we as psychiatrists (and nurse practitioners) must be role models for our patients in multiple ways, because it may help enhance clinical outcomes and have a positive impact on their brains.

I would also like to point Dr. Liu to the editorial "The most powerful placebo is not a pill" (From the Editor, CURRENT PSYCHIATRY, August 2011, p. 18-19), which I wrote 8 years ago (before he started his residency), about the importance of what we do and say as physicians.

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The APA's stance on neuroimaging

Can anyone in the modern world argue that the brain is irrelevant to psychiatry? Yet surprisingly, in September 2018, the American Psychiatric Association (APA) officially declared that neuroimaging of the brain has *no* clinical value in psychiatry.¹

continued

Unfortunately, the APA focused almost exclusively on functional magnetic resonance imaging (fMRI) and neglected an extensive library of studies of single-photon emission computed tomography (SPECT) and positron emission tomography (PET). The APA's position on neuroimaging is as follows^{1,2}:

1) A neuroimaging finding must have a sensitivity and specificity (S/sp) of no less than 80%.

2) The psychiatric imaging literature does not support using neuroimaging in psychiatric diagnostics or treatment.

3) Neuroimaging has not had a significant impact on the diagnosis and treatment of psychiatric disorders.

The APA set unrealistic standards for biomarkers in a field that lacks pathologic markers of specific disease entities.³ Moreover, numerous widely used tests fall below the APA's unrealistic S/sp cutoff, including the Hamilton Depression Rating Scale,⁴ Zung Depression Scale,⁵ the clock drawing test,⁶ and even the chest X-ray.³ Curiously, numerous replicated SPECT and PET studies

were not included in the APA's analysis.¹⁻³ For example, in a study of 196 veterans, posttraumatic stress disorder was distinguished from traumatic brain injury with an S/sp of 0.92/0.85.^{7,8} Also, fluorodeoxyglucose (FDG)-PET has an S/sp of 0.84/0.74 in differentiating patients with Alzheimer's disease from controls, while perfusion SPECT, using multi-detector cameras, has an S/sp of 0.93/0.84.^{3,9} Moreover, both FDG-PET and SPECT can differentiate other forms of dementia from Alzheimer's disease, yielding an additional benefit compared to amyloid imaging alone.^{2,9} As President of the International Society of Applied Neuroimaging, I suggest neuroimaging should not be feared. Neuroimaging does not replace the diagnostician; rather, it aids him/her in a complex case.

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