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EDITOR'S NOTE

Supporting our learners by promoting their brain health

Every day that we have the opportunity to work with the learners in our professional schools, we are impressed by their skills, knowledge, and compassion. This emerging generation of leaders possesses formidable brian power. Our brains control everything we do, from fine motor skills to processing emotions. Protecting brain's health is important for us as individuals and also for society at large.

When we look at what makes a good dental school learner, some assets stand out. Among the most obvious are a history of being a good student, strong intellect, and "good hands." Should we also consider brain health? Brain health is a term that refers to brain function across sensory, motor, cognitive, behavioral, and social-emotional domains.[1] Brain health is a critical determinant of overall health. Regardless of income, education, or geography, brain health affects every person's life.[2] Conditions that negatively affect brain health can occur at any time in life, but most mental disorders become symptomatic by the age of 14 and nearly 90% peak during a person's 20s.[3,4] This pattern is markedly different from chronic physical health conditions that can develop in a person's 50s.

Because the emergence of adverse mental health conditions is more likely to coincide with the mean age of our doctors in training (Figure 1), universities have a unique responsibility to our learners. In addition to the academic and clinical demands, there can be overwhelming financial pressure, anxiety about keeping up with peers, and a culture that often demands high achievement without being understanding about mistakes. This puts the brain health of our dental school learners at greater risk compared to their non-dental student peers.[5]

Long hours are part of the learner lifestyle during dental education, and staying up late to keep pace with rigorous academic demands is part of the culture. But we know that sleep deprivation is a significant contributor to depression and other brain health disorders.[6] Over the course of dental education, some of our learners may become conditioned to function with just a few hours of sleep. Although they may perceive they are still performing at their best, insufficient sleep in medical students has been shown to have a negative effect on memory, neurocognitive performance, academic performance, heart health, and overall health.[7–11]

Also concerning for the future of our learners is that they may carry the behaviors that helped them through the challenging years of academic and clinical training into their lives after dental school. Not getting enough sleep is damaging enough, but there are other maladaptive coping mechanisms that students might rely on in school that can lead to adverse long-term problems,[12,13] including drug and alcohol abuse. Years ago, we completed a quasi-experimental health survey of Massachusetts dentists.[14] One of the concluding remarks in that study was the following statement:

> *What is important to consider is that all of the conditions where dentists have similar or higher prevalence than the general population have been associated with stress.*[14]

The stress of dental education and a dental career can worsen health outcomes. Exacerbating all of this, COVID-19 led to a global increase in adverse brain health conditions.[15] For example, in the United States during the pandemic, we observed increases in anxiety, depression, and substance use.[16] As society continues to grapple with the pandemic's aftermath, it is crucial to recognize the continued burden of pandemic-era anxiety, stress, and grief.[17] Given this, it is important that our learning communities continue to build resilience and foster compassion. Although steps have been taken to address negative mental health impacts stemming from the pandemic, concerns surrounding brain health disorders, and substance use remain elevated.

There is strong evidence that interventions can help treat *and* prevent some brain health conditions.[18] In addition, in many cases, the earlier the intervention, the more effective it is in minimizing individual suffering and costs to society. One important aspect of brain health is positive mental health,[19] which is highly related to perceived self-efficacy, autonomy, competence, and the ability to realize one's intellectual and emotional potential. Good brain health means more than just the absence of disease; it also includes overall cognitive functioning, resilience, and a state of well-being in which individuals feel able to cope with the normal stresses of life, realize their abilities, work productively, and contribute to their communities. These

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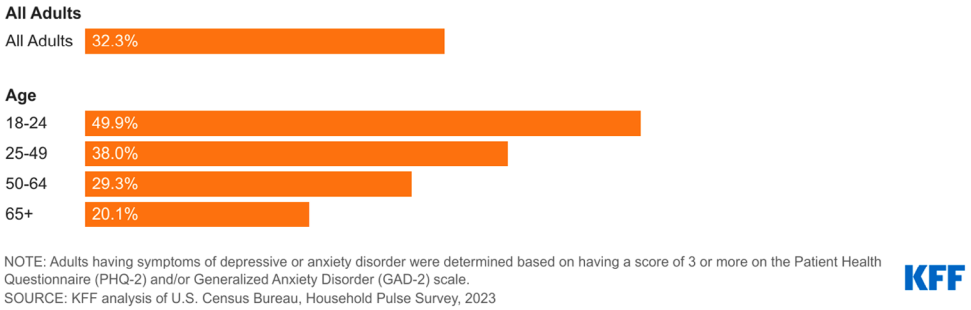

FIGURE 1 Share of adults reporting symptoms of anxiety and/or depressive disorder, February 2023.

seem like professional activity goals we should develop in our graduates.

Resources that support brain health are present on most university campuses. Psychological counseling, medical clinics, stress and depression screening, and spiritual support are available at many schools. A positive development is that members of Gen Z have a more nuanced approach to mental health than previous generations. The shame and stigma associated with depression and anxiety in earlier generations are not shared by these young learners. This creates an opportunity to address brain health directly with them. For example, when a clinical group leader meets with their Gen Z student, can the first question be, "Over the last two weeks, how often have you been bothered by feeling down, depressed, or hopeless?" This question is part of a depression screening tool.[20]

Time is a finite and precious resource for our learners instead of putting the burden on them to find help, we might bring it to them by including practical instruction about ways to nurture and protect brain health as part of the curriculum.

Most efforts to improve learner brain health have focused largely on improving access to mental health providers and reducing the stigma and other barriers to mental health treatment. Still, we believe there is a space for innovative models that promote wellness by directly addressing brain health. A multifaceted curriculum could address learner health through course content, wellness electives, learning communities, or required resilience/mindfulness experiences. Additionally, can we inculcate addressing brain health for our students, faculty, and staff by embedding it into school processes in a way similar to how we have elevated the value of inclusion by integrating it into annual reviews and faculty searches?

Brain health is deeply interconnected with social, spiritual, and physical health. A healthy body protects a healthy mind. Exercising regularly, getting enough sleep, managing stress, nurturing social connections, and maintaining a healthy diet can help reduce the risk of cognitive decline. Maintaining brain health is a lifelong journey, and small lifestyle changes can have meaningful positive outcomes. By enhancing our brain's resilience, we can enjoy significant long-term benefits, including improved cognitive function, emotional well-being, and overall quality of life.

Brain health is also a collective responsibility. In our previous example, the clinical group leader was checking in on the student, but who is checking in on the clinical group leader? Brain health is a valuable resource that underpins the well-being, productivity, and social cohesion of our communities. It is a complex issue that requires our university communities to pool resources. By taking a multifaceted and system-wide approach, we have the potential to create better mental health and improved quality of life for our learners and our dental school communities. Recognizing the importance of brain health and implementing strategies to promote and protect it can help build healthier, more prosperous societies for generations to come.

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