Study finds meditation and aerobic exercise relieves stress in medical school students

May 4 2020, by Robin Lally

Rutgers Robert Wood Johnson Medical School student Paul Lavadera expected his career would put him on the front lines of dealing with medical emergencies.

But he never could have imagined he'd be graduating during the biggest global pandemic in a century when he joined forces two years ago with Tracey Shors, Distinguished Professor of Neuroscience and Psychology, on a study to find out whether aerobic exercise and meditation would reduce stress and improve the quality of life for medical students like him.

Now Lavadera, who begins a four-year emergency medicine residency on June 29 at a COVID-19 only hospital in Brooklyn and Shors, who thinks she may have battled a case of the coronavirus, are using the stress-reducing technique taught to RWJMS medical school students to help them each deal with the anxiety and uncertainty left in the path of the crisis.

"I am isolating alone in my apartment and keeping myself up to date on the evolving guidelines on treatments and recommendations regarding COVID19, but I'm making a conscious decision to avoid sensational and minute-by-minute news," says Lavadera who will split his time between two Brooklyn hospitals—Kings County Hospital in Flatbush and SUNY Downstate Medical Center, one of only three New York hospitals treating COVID-19 only patients. "I am working out, mediating and doing the training program that I helped to promote to medical school

students. I think it keeps me afloat and helps to keep my stress level down."

The new Rutgers study in the *Journal of Alternative and Complementary Medicine*, Lavadera coauthored with Shors and doctoral student Emma Millon, documents the effectiveness of the technique that helped them both through this difficult time. The researchers found that meditation combined with aerobic exercise reduces stress and rumination while enhancing the quality of life for medical students.

Over an eight-week period first and second-year medical school students participated in the intervention called MAP Train My Brain, twice a week, which included 30 minutes of meditation followed by 30 minutes of aerobic exercise compared to a control group of student who did neither.

Shors—who developed the MAP (mental and physical) Training for those with depression, trauma and stress-related symptoms—has studied the effects of this training on different groups, including women who have been sexually assaulted and most recently women living with HIV, a study which has not yet been published.

When Shors began the study on medical school students with Lavadera she thought she understood how stressful treating patients could be for physicians. But she gained deeper insight during her recent illness.

For about six weeks from late February to early April, Shors suffered with coronavirus symptoms at home: trouble breathing, a persistent cough, and debilitating fatigue. She went to packed emergency departments twice, got a chest X-ray that showed no pneumonia and was sent home to isolate without getting a COVID-19 test because she didn't have a fever.

Shors remembers the doctors and nurses. "Behind their masks, I could see in their eyes the stress and anxiety that they are feeling, but I also experienced the professionalism and compassion that they bring to each person coming in for help," said Shors, vice chair/director of Graduate Studies in the department of psychology Center for Collaborative Neuroscience in the School of Arts and Sciences at Rutgers University-New Brunswick.

The study, which researchers believe is the first to document positive outcomes with such an intervention on medical students, found that the students doing the MAP Training experienced significantly less stress and were approximately 20 percent less likely to ruminate with depressive and brooding thoughts, when compared to medical students in the control group who did not participate in the program.

Most importantly, researchers say, is that those involved in the study said the training improved their quality of life, with 84 percent of the medical school students saying that they would recommend MAP Train My BrainTM to future patients as a way to alleviate anxiety and stress and improve overall health.

Shors and Lavadera say while the aim of the study was to provide a program for medical school students that would keep them physically and mentally healthy, they also hoped that it would be a program that they would want to recommend to future patients.

As the uncertainty of what lies ahead with the global COVID-19 pandemic continues, both Shors, who at the height of what she believes was her bout with coronavirus, worried that she would have to be hooked to a ventilator, and Lavadera, who has been trying to stay away from the daily drumbeat of coronavirus news before he has to deal with it firsthand, says this meditation and aerobic exercise program allows them to do it at home, alone.

"It is always important to reduce stress but especially important and difficult to do during this traumatic time," says Shors. "We are living with the threat of illness and even death for ourselves and our loved ones. There is nothing more stressful than that."

More information: Paul Lavadera et al, MAP Train My Brain: Meditation Combined with Aerobic Exercise Reduces Stress and Rumination While Enhancing Quality of Life in Medical Students, *The Journal of Alternative and Complementary Medicine* (2020). DOI: 10.1089/acm.2019.0281

Provided by Rutgers University