At USC, medical students learn BP measurement all 4 years

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Timothy M. Smith
Senior News Writer

Seeing as more than one-third of U.S. adults have hypertension—and less than half of them have it controlled to their blood pressure goal—it’s curious that BP measurement often gets only the briefest instruction in medical school, and many times that comes before the clerkship years. As a result, many medical students move on to residency with little to no hands-on experience in measuring BP, much less getting accurate measurements.

The second episode of a two-part webinar, “Advancing Student BP Measurement Training,” explores a project at Keck School of Medicine of the University of Southern California (USC) that has implemented BP measurement training and assessment across all four years. Its centerpiece is the AMA’s “Student BP Measurement Essentials” e-learning series.

This project and the five others profiled in the webinar were funded by grants from AMA Improving Health Outcomes.

Taking the long view

“We tried to simulate the use of all the modules longitudinally over time, so we did simultaneous implementation across our” undergraduate medical education continuum, said AMA member Ron Ben-Ari, MD, associate dean for curriculum and associate dean for continuing medical education at Keck School of Medicine of USC. Dr. Ben-Ari was the principal investigator for the project, leading a team that includes Win May, MD, PhD, Cha Chi Fung, PhD, Greg Harlan, MD, Alan Liu, MD, second-year medical student Rachel Colbath, and Lillie Hudson, MSPA, MPH.

First- and second-year students completed the first module, “BP Measurement Essentials: Student Edition,” which covers everything from the importance of accurate blood pressure measurement and the current standard on to how to prepare and position a patient for BP measurements and how to perform BP measurements on manual, semi-automated and automated office BP devices. It also
provides an overview of self-measured blood pressure (SMBP).

Third-year students completed the second module in the series, "Self-Measured Blood Pressure Essentials: Student Edition," which covers how to partner with patients to improve blood pressure measurement at home.

Third- and fourth-year students then reviewed a briefer, summary version of the first module’s learning objectives through a third module, "BP Measurement Refresher: Student Edition."

Partnering with patients

“We have, of course, always taught vital signs and emphasized learning about blood pressure measurement,” Dr. Ben-Ari said. “But we had never had core curricular content around self-measured blood pressure, so this was new to our curriculum.”

Dr. Ben-Ari and his colleagues had the third-year students complete the SMBP module prior to intersession and developed a standardized patient (SP) encounter for intersession using a 15-step model derived from the SMBP module to assess and give feedback to students on counseling a patient on how to perform self-measured blood pressures. They also attached a post-encounter exercise using the same 15-step model into a required clinical performance exam conducted at the end of the third year. The model covers four domains: preparation, performance, recording and following up.

The intersession’s assessment results showed significant knowledge transfer. Among the 186 students who completed the SP encounter, the mean score was 81% with a standard deviation of 12. The same students took a required clinical performance exam three to four months after intersession and their mean score was 78% with a standard deviation of 14.

"There was quite high uptake of the information through the module,” Dr. Ben-Ari said, noting, however, that he and his colleagues saw degradation in performance between the intersession OSCE and the clinical performance exam. “We just think that supports that reinforcement of the knowledge and skills is necessary.”

The “Student BP Measurement Essentials” e-learning series is part of the?AMA Ed?Hub™, an online platform?with high-quality CME and education that supports the professional development needs of physicians and other health professionals. With topics relevant to you, it also offers an easy, streamlined way to find, take, track and report educational activities.

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Editor's note: Due to an editing mistake, upon initial publication this article's headline included an extra word. The AMA regrets the error.