Study uncovers critical area where medical students fall short

SEP 12, 2019

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When medical students were asked questions about their knowledge of prediabetes and type 2 diabetes prevention, most offered up incorrect responses, according to a recent study. This signals a gap in knowledge among medical students, which is critical because the Centers for Disease Control and Prevention estimates that more than 100 million Americans have diabetes or prediabetes.

Published in *BMC Medical Education*, the study was co-written by Tamkeen Khan, PhD, a senior economist at the AMA, Greg Wozniak, PhD, director of outcomes analytics in Improving Health Outcomes at the AMA, and Kate Kirley, MD, a family physician and director of chronic disease prevention at the AMA. The researchers assessed medical students’ basic knowledge of prediabetes and type 2 diabetes prevention with a six-item questionnaire.

Administered at the 2016 AMA Annual Meeting in Chicago during the AMA Medical Student Section sessions, 197 students completed the questionnaire. Almost 60% correctly answered the question about optimal weight-loss range for preventing or delaying the onset of type 2 diabetes (5-7% of their body weight).

However, only 13% responded correctly to the question about the U.S. Preventive Services Task Force (USPSTF) recommendations for screening. For questions about prediabetes prevalence and risk factors, only half of medical students answered correctly. And when asked about prediabetes diagnosis and interventions to prevent type 2 diabetes, only a quarter responded correctly.

In light of the study’s findings, Sarah Smithson, MD, from the University of North Carolina (UNC) School of Medicine in Chapel Hill, explained how medical schools can take steps to improve students’ knowledge of prediabetes and type 2 diabetes prevention.

Expand on prediabetes education
UNC—part of the AMA Accelerating Change in Medical Education Consortium—does not have formal independent lectures committed to prediabetes, but the school is offering education in the context of other conditions.

“In our foundational content, we have lectures on obesity and lifestyle modifications as treatment for diabetes,” said Dr. Smithson, assistant professor of the Division of General Internal Medicine, assistant dean for clinical education and director of Interprofessional Education and Practice at UNC.

“We are intentionally incorporating evidence regarding prediabetes and the importance of managing conditions early into those lectures for the preclinical phase,” she added.

Shift to preventive focus

Traditionally, the focus has been on pathology, said Dr. Smithson, adding that “emphasizing prevention all the way from the beginning of what we will often call foundational science is a really important shift of how we’re thinking about educating our medical students.”

The study noted that students performed poorly on questions about the USPSTF recommendations. However, UNC intentionally teaches about these guidelines because it sets a path for teaching students about prevention, and which tests are important and valuable for prevention.

As more information is available, Dr. Smithson says the curriculum at UNC will evolve to include more education about prediabetes.

Practice what you preach

Medical students are influenced by what is taught didactically and what is covered on specific standardized testing, such as the United States Medical Licensing Examination. However, students are also influenced by what they see in clinical practice too.

The study notes a big gap in actual care delivery in this area. While preclinical or foundational education is provided, if “students go out into the real world and they don’t necessarily see their preceptors practicing what they’ve learned, then they may be likely to shift their practice in favor of what they see their preceptors doing rather than what they’ve learned in textbooks or in lectures,” said Dr. Smithson.
One lesson won’t cut it

Giving medical students multiple bites at the apple to acquire critical pieces of knowledge on chronic disease management and prevention is key, Dr. Smithson aid.

“If you wanted to create an isolated lecture about prediabetes, you could, but repetition is valuable as students are learning and developing,” said Dr. Smithson. “That opportunity to have multiple places where you insert education about prediabetes may ultimately be even more effective than a single lecture or talk about it.”

The AMA’s Diabetes Prevention Guide supports physicians and health care organizations in defining and implementing evidence-based diabetes prevention strategies. This comprehensive and customized approach helps clinical practices and health care organizations identify patients with prediabetes and manage the risk of developing type 2 diabetes, including referring patients at risk to a National Diabetes Prevention Program lifestyle change program based on their individual needs.