Most doctors still believe in prescribing unnecessary antibiotics to treat asymptomatic infections, study suggests

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An estimated 70% of primary care physicians reported in a survey that they would still prescribe antibiotics to treat asymptomatic infections

based solely on a positive urine specimen. This is despite long-held medical guidelines recommending against this practice, according to a new study published today in *JAMA Network Open*, which was led by University of Maryland School of Medicine (UMSOM) researchers.

Since 2005, medical organizations have been advocating against the routine use of antibiotics to treat patients who have bacteria detected in a urine culture but no symptoms of a urinary tract infection (UTI) like burning or frequent urination. Overwhelming evidence indicates that the medications are not helpful for asymptomatic patients and could lead to adverse health effects like diarrhea, vomiting, rashes, and yeast infections. Antibiotics can, in rare cases, cause death due to an overgrowth the dangerous bacteria C. difficile in the colon. Overuse of these drugs has also contributed to the rise of antibiotic-resistant bacterial infections that are difficult to treat and sometimes deadly.

In the study, the UMSOM researchers surveyed 723 primary care clinicians from Texas, the Mid-Atlantic, and the Pacific Northwest regarding their approach to a hypothetical patient with asymptomatic bacteriuria; this is a condition where bacteria are detected in the urine of a patient without any UTI symptoms. They found 71% of clinicians, 392 out of the 551 who completed the survey, would opt to treat such a patient with antibiotics even though such treatment goes against the recommended guidelines.

"Our study suggests that primary care clinicians do not follow widely accepted recommendations against prescribing antibiotics for asymptomatic bacteriuria," said lead author Jonathan Baghdadi, MD, Ph.D., Assistant Professor of Epidemiology & Public Health at UMSOM. "Some primary clinicians may be unaware of these recommendations, but a culture of inappropriate prescribing is also likely a contributing factor."

Family medicine physicians were more likely to prescribe antibiotics unnecessarily compared to other specialties. Physicians who were in residency training or who resided in the Pacific Northwest were less likely to prescribe antibiotics.

"We found other factors also played a role in prescribing like whether a physician had a stronger preference in favor of over-treating a condition and fear of missing a diagnosis; that person was more likely to favor prescribing antibiotics compared to a physician who felt more comfortable with uncertainty in practicing medicine," said study leader Daniel Morgan, MD, MS, Professor of Epidemiology & Public Health at UMSOM.

One strategy to change practice could be an education program targeting physicians who place a high priority on treating just to make sure they do not miss a possible infection, the researchers said in the conclusion section of the article. For example, reframing "unnecessary treatment" with antibiotics as "potentially harmful" treatment with antibiotics could help curb the tendency towards overprescribing.

More information: Jonathan Baghdadi et al, Exploration of Primary Care Clinician Attitudes and Cognitive Characteristics Associated With Prescribing Antibiotics for Asymptomatic Bacteriuria, *JAMA Network Open* (2022). DOI: 10.1001/jamanetworkopen.2022.14268

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