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# Perception that antibiotics are harmless is widespread

Patients' beliefs and expectations influence clinician's prescribing

Peer-Reviewed Publication

CENTER FOR DISEASE DYNAMICS, ECONOMICS & POLICY

WASHINGTON -- A new study of decision-making about the use of antibiotics in medicine has found that the mistaken belief that antibiotics are harmless is widespread, especially among patients. Clinicians and patients alike are influenced by the general notion of "why not take a risk" ("WNTAR"), a belief that there is potential benefit and very little risk in taking antibiotics, when in reality there are specific downsides, both for individuals and for society as a whole.

The team of researchers from George Washington University, Center for Disease Dynamics, Economics & Policy (CDDEP), University of California-Davis, Cornell University, and Johns Hopkins University surveyed 149 clinicians and 225 patients from two large urban academic hospitals and 519 online non-patient subjects to determine whether providers share patients' rationales for antibiotic use. They discovered that when comparing the status quo of remaining sick to the potential benefits of antibiotic use, patients are more likely to expect antibiotics, leading clinicians to prescribe them more despite having a greater knowledge of the drugs and their side effects. The research was published May 30, 2018 in the journal *Medical Decision Making*.

The study--Patients' and Clinicians' Perceptions of Antibiotic Prescribing for Upper Respiratory Infections in the Acute Care Setting--also found the "WNTAR" belief can lead to increased healthcare costs and adverse reactions, such as antibiotic resistance and secondary infections.

"The problem is that patients, but more surprisingly clinicians, are not fully recognizing the potential harms from antibiotic use", said Dr. Klein of CDDEP. "Despite the fact that approximately 20% of patients can get some sort of side effect, this does not seem to be as important a factor in decision-making as one would expect."

Dr. Broniatowski and colleagues hope a better understanding of this issue will lead to the development of educational strategies that can be used to communicate risks and consequences, with the ultimate goal of reducing inappropriate prescribing and alleviating antibiotic resistance.

"The most important driver of antibiotic resistance is antibiotic use," Dr. Klein added. "Eliminating unnecessary antibiotic use would eliminate unnecessary harms to patients, and help reduce the spread of antibiotic resistance, which threatens the medical gains of the last century."

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**About the Center for Disease Dynamics, Economics & Policy**

The Center for Disease Dynamics, Economics & Policy (CDDEP) produces independent, multidisciplinary research to advance the health and wellbeing of human populations around the world. CDDEP projects are global in scope, spanning Africa, Asia, and North America and include scientific studies and policy engagement. The CDDEP team is experienced in addressing country-specific and regional issues, as well as the local and global aspects of global challenges, such as antibiotic resistance and pandemic influenza. CDDEP research is notable for innovative approaches to design and analysis, which are shared widely through publications, presentations and web-based programs. CDDEP has offices in Washington, D.C. and New Delhi and relies on a distinguished team of scientists, public health experts, and economists.

## JOURNAL

Medical Decision Making

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