

Self-prescribing antibiotics is a big problem

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Five percent of adults from a cohort of 400 people reported using antibiotics without a prescription during the previous 12 months. Twenty-five percent said they would use antibiotics without contacting a medical professional. These findings demonstrate yet another factor abetting the spread of antibiotic resistance. The research is published ahead of print July 11 in *Antimicrobial Agents and Chemotherapy*, a journal of the American Society for Microbiology.

In the study, the investigators surveyed a random sample of socioeconomically and ethnically diverse adult patients of family practice clinics, from around Houston, Texas.

Fourteen percent of the patients reported keeping a stash of [antibiotics](#) at home, said corresponding author Larisa Grigoryan, MD, Ph.D., instructor in the Department of Family and Community Medicine, Baylor College of Medicine, Houston, TX. Forty percent of antibiotics used without a prescription were purchased in stores and pharmacies in the U.S. Another 24 percent were obtained outside of the U.S. Friends or relatives supplied 20 percent of antibiotics, and leftover medicines from previous prescriptions accounted for 12 percent. Four percent of the total were [veterinary antibiotics](#).

The vast majority of antibiotics that patients were storing—74 percent—were saved from previous prescriptions.

"The most common conditions patients reported self-treating with antibiotics were sore throat, runny nose, or cough—conditions that

typically would get better without any antibiotic treatment," said Grigoryan.

The rates of self treatment with antibiotics were similar across different races and ethnic groups, said Grigoryan.

However, among patients who said they would use antibiotics without a prescription, 60 percent were from public clinics that provide care for underserved minority patients and 44 percent reported annual incomes of less than \$20,000, said Grigoryan. "Patients from public primary care clinics, those with less education, and younger [patients](#) had a higher risk of [non prescription] use in our survey," the investigators wrote.

One motivation for self-prescribing may be to save money on drugs and on copays, the authors suggest, noting that copays in public clinics ranged up to more than \$70.

"Our study confirmed that despite being illegal, over the counter dispensation of systemic antibiotics occurs in the U.S.," the investigators write.

Antibiotics can cause serious side effects, said Grigoryan. More importantly, overuse, and inappropriate use of antibiotics can cause resistance to develop and spread, which is hazardous for the individual, as well as for public health. Every year, at least 2 million Americans become infected with antibiotic resistant pathogens, and these infections kill 23,000, according to the US Centers for Disease Control and Prevention. Antimicrobial resistance can spread among different species of bacteria.

"When people self-diagnose and self-prescribe antibiotics it is likely that the therapy is unnecessary because most often these are [upper respiratory infections](#) that are mostly caused by viruses," said Grigorian.

Antibiotics do not kill viruses. In the case of bacterial infections, "even if the cause is bacterial, lay people don't know which antibiotics cover which pathogens and for how long should they use them." Misusing antibiotics so that some of the pathogenic bacteria survive often fosters resistance.

According to the World Health Organization, "Without urgent, coordinated action, the world is heading towards a post-antibiotic era, in which common infections and minor injuries, which have been treatable for decades, can once again kill."

Provided by American Society for Microbiology

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