Poster # 1

Patient Behaviors and Beliefs Regarding Antibiotic Use: Implications for Clinical Practice

Stephanie Boyd, MA; Susan Foster, PhD
Alliance for the Prudent Use of Antibiotics, Boston, MA

Background

Antibiotic resistance is a growing problem which threatens the ability of health care providers to provide effective treatments for infectious diseases. Many patient behaviors contribute to the development of resistance, including obtainment of antibiotics from sources other than health care providers, the practice of stopping antibiotic prescriptions early, and pressuring of health care providers to prescribe antibiotics for conditions for which they are inappropriate[1,2]. The purpose of this research was to gain a better understanding of the beliefs and risk factors associated with such behaviors, and to identify ways in which clinicians can use this information to more effectively discourage inappropriate antibiotic use patterns in their patients.

Methods

In September through November of 2006, a sample of 919 English speaking U.S. adults who had taken antibiotics within the last 12 months was interviewed by telephone. Respondents answered questions about their practices, experiences, and beliefs concerning antibiotic use. Responses were weighted to reflect the U.S. population by gender, ethnicity, and age based upon the U.S. Census Bureau's 2005 Population Estimates. All differences noted between segments are significant at the 95% confidence level.

Results

Survey results indicate that, while many patients believe they "know what they need" to treat illnesses, knowledge on basic issues related to antibiotic use is often quite low. 10% of respondents identified Tylenol, Robitussin, or both of these as antibiotics, and an additional 4% named other non-antibiotic drugs as antibiotics at some point in the survey. Additionally, nearly half of respondents reported a belief that antibiotics are useful for treating viruses. (See Figure 1).

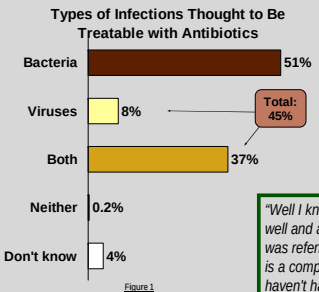

Figure 1

"Well I know my body really well and after I turned 18 I was referred to a doctor who is a complete moron. I haven't had time to change doctors so I kind of have to tell him what I need."
-Caucasian female, under 25

Results (continued)

More specifically, 8% of respondents stated that antibiotics are their first choice of treatment for an early stage cold, and a belief that antibiotics can treat viral illnesses more than doubled the chances that a respondent would state this preference. Figure 2 illustrates cold treatment preferences, and summarizes the reasons respondents gave for preferring antibiotics. The most common rationale for preferring to receive an antibiotic was a belief that it would speed recovery. This pattern was even stronger among parents asked about their cold treatment preferences for their children. 13% of parents preferred to give their children antibiotics right away, and in this group, the effect of believing that antibiotics can treat viral infections was stronger, quadrupling preference for antibiotic treatment.

"[I knew I needed antibiotics] because I was having migraines."
-African American male, under 25

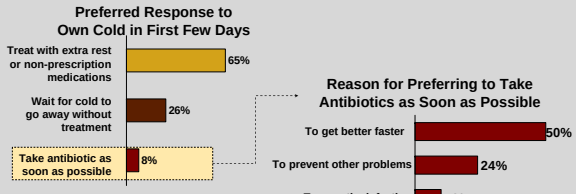

Figure 2

"It's common knowledge that antibiotics help you to get over a cold or a virus faster."
-Caucasian Female, 35-44 years old

Knowledge about the types of illness that antibiotics can effectively treat lowered the chances that a respondent would prefer an antibiotic for an early cold. Additionally, behavior was found to be mitigated by having knowledge about the existence of antibiotic resistance. This knowledge also reduced the likelihood that a respondent would report stopping a prescription early without consulting a health care provider. (See Figure 3).

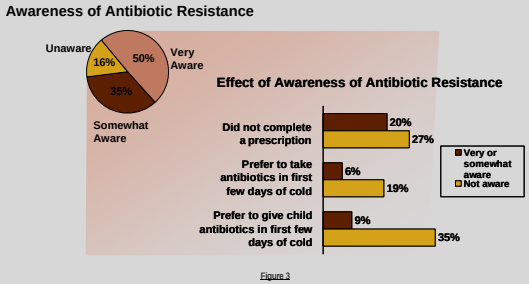

Figure 3

"I don't believe they are particularly good for you. I know that sometimes you need to take them. I think that many people are given too many antibiotics and they build up this immunity so then you have these superbugs."
-Caucasian female, 45-54 years old

"I read up on antibiotics and I heard that they kill the good cells as well as the bad ones."
- African American Male, 35-44 years old

Reported expectations for antibiotics were also strongly affected by the terminology used to communicate diagnosis, an effect that has been previously noted for bronchitis[3]. Figure 4 illustrates this effect for three conditions that are often cited as being over-treated with antibiotics.

"I just took them because the symptoms seemed very similar to some of the illnesses that I had where an antibiotic was prescribed. I just basically had some type of virus that just wouldn't go away. I had Amoxicillin to treat that in the past. It worked in the past."
-White male 25-34 years old

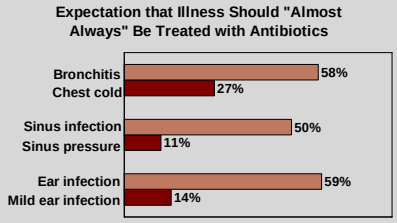

Figure 4

Conclusions and Implications for Practice

These results suggest potential communication strategies which nurse practitioners can use to reduce patient expectations for antibiotics in situations in which they are unnecessary. By understanding potential gaps in patient knowledge and communicating diagnosis in ways that patients find less threatening, clinicians can more effectively negotiate encounters in which patients exert pressure to prescribe an unneeded antibiotic. Specifically, the results indicate that the following practices may be useful:

1) Remember that patients may not have sophisticated understanding of what antibiotics can do, and take this into account when talking with patients who have requested unnecessary antibiotics. For example, a statement like "you have a virus, so you don't need an antibiotic today" might not be accepted as a logical argument to the 46% of survey respondents who said that antibiotics can treat viruses.
2) It is also important to remember that patients usually have specific reasons for their preferences. Since the most common reason given for preferring antibiotics for a cold was "to get better faster," it may be worth emphasizing the fact that antibiotics cannot help this happen.
3) Similarly, when giving a patient a prescription, it may be helpful to make sure the patient understands what type of medication he or she is receiving.
4) Survey results show that having knowledge about antibiotic resistance does indeed lead to lower rates of patient antibiotic requests and other undesirable behaviors. It is worth the time to explain to patients how resistance develops, and how this could directly affect them.
5) Communicating diagnosis in terminology that patients find less threatening may substantially reduce expectation of receiving an antibiotic.

Literature Cited

1) Welschen, I, et al. (2004). Antibiotics for acute respiratory tract symptoms: patients' expectations, GPs' management and patient satisfaction. Family Practice, 21(3), 234-7.
2) Scott, JG, et al. (2001). Antibiotic use in acute respiratory infections and the ways patients pressure physicians for a prescription. Journal of Family Practice, 50 (10), 853-8.
3) Phillips, TG and Hickner, J. (2005). Calling acute bronchitis a chest cold may improve patient satisfaction with appropriate antibiotic use. Journal of the American Board of Family Practice, 18(6):459-63.

Acknowledgements

APUA gratefully acknowledges the members of its advisory board for their contributions to the design and analysis of this survey:

Timothy Edgar, PhD, Emerson College
Cindy Friedman, MD, CDC
Ralph Gonzales, MD, University of California, San Francisco
Gordon Grundy, MD, Aetna (retired)
Philip Walson, MD, University of Cincinnati

This project was made possible by an unrestricted educational grant from Pfizer

APUA also thanks Links Media fort he fielding of this survey and compilation of survey results and analysis.