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INCREASING PATIENT EDUCATION ON PROPER ANTIBIOTIC STEWARDSHIP

New Fairfield Family Practice, New Fairfield, CT
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Improper antibiotic use is a growing public health concern

- In New Fairfield, CT, providers often face challenges caring for patients with infections due to prior, improper self-treatment using antibiotics
- Disparities in use of antibiotics across different providers lead to patient confusion on whether it is appropriate to self-treat an infection using antibiotics
- The ultimate risk is complete antibiotic resistance, which has been observed in palliative care patients at Danbury Hospital who have no further recourse for treating complicated sepsis infections due to antibiotic resistance.

The cost of antibiotic resistance

- Compared to non-resistant forms, resistant bacterial double the chance of developing a serious health issue and triple the chance of death
- CDC: the cost of antimicrobial resistance is \$55 billion every year in the United States
 - *\$20 billion for health care and \$35 billion for loss of productivity*
 - *The public health cost would increase disparities and inequities*
- The increased risk of difficult-to-treat or untreatable infections affects treatments that increase patient susceptibility to infections
 - *Surgeries, organ transplants, chemotherapy*

Community Perspective

- Cindy Heng, APRN at New Fairfield Family Practice
 - *Has had several encounters with patients who attempted to self-treat an infection using antibiotics*
 - States that, particularly for UTIs and upper respiratory infections, this skews the results of diagnostic testing, making it more difficult to identify and treat the underlying infection
 - States that she believes the average patient does not understand proper antibiotic stewardship
 - *“There are certain providers who will give antibiotics for almost everything. Even when I see [these patients], they still expect those antibiotics, even when explained why they aren’t necessary. For the majority of people, it depends on how they’ve been ‘trained’ as a patient in their prior encounters.”*
- Attempts to reach out to Candlewood Drugs in New Fairfield, CT, were unsuccessful and they were unavailable for comment.

Intervention and Methodology

- **Problem: Patients do not understand proper use of antibiotics**
- A simple, small, easy-to-understand handout was developed based on what providers at New Fairfield Family Practice believed is the most important information for patients to know about proper antibiotic use:
 - *Difference between viral and bacterial infections*
 - *Risks of adverse effects and resistance*
- Provide these handouts with antibiotic prescriptions at local pharmacies

Results

- Due to time and financial constraints, handouts could not be printed and distributed
- Patient perspective was elicited on their opinions on whether this initiative would be effective, with mixed responses
 - *Patients felt that it would be helpful to have this information handed to them at pharmacies*
 - *Patients also stated that either themselves or other patients already do not read extra information that comes with their prescriptions at pharmacies, and that the pamphlets would be ignored and/or thrown out*

Effectiveness and limitations

- With more time and resources, the pamphlets could be distributed to pharmacies by patients in the New Fairfield area
- Data could be collected on the rate of improper antibiotic use by patients at New Fairfield Family Practice before and after implementation of the intervention.
 - *Goal would be to see less self-treatment of uncomplicated infections with antibiotics*
- Patients could be asked if they received this handout, and whether this changed their use of antibiotics.

Recommendations for Future Interventions

- Alternative mediums could be employed, such as posters, text messages, or digital resources accessible via QR codes posted at pharmacies and doctors offices
- Develop a handout or education initiative aimed at clinicians to help educate on proper antibiotic use guidelines and standardize care of infectious across multiple providers

References

- CDC.gov
- Dadgostar P. Antimicrobial Resistance: Implications and Costs. *Infect Drug Resist.* 2019 Dec 20;12:3903-3910. doi: 10.2147/IDR.S234610. PMID: 31908502; PMCID: PMC6929930.

Interview Consent Statement

Thank you for agreeing to be interviewed. This project is a requirement for the Family Medicine clerkship. It will be stored on the Dana Medical Library ScholarWorks website and will be searchable using Google Scholars. Your name will be attached to your interview and you may be cited directly or indirectly in subsequent unpublished or published work. Your responses will be used to inform the development of an intervention for public education of antibiotic resistance, but neither your comments nor your name will be directly included in the intervention itself.

The interviewer affirms that he/she/they has explained the nature and purpose of this project. The interviewee affirms that he/she/they has consented to this interview.

If you have any hesitation, we are able to stop the interview.

Interview Consent Statement – Patient Perspective

Thank you for agreeing to be interviewed. This project is a requirement for the Family Medicine clerkship. Your name will not be recorded, but your responses will be included in a PowerPoint file on the Dana Medical Library ScholarWorks website and will be searchable using Google Scholars. Your responses will be used to inform and evaluate the development of an intervention for public education of antibiotic resistance, but neither your comments nor your name will be directly included in the intervention itself.

The interviewer affirms that he/she/they has explained the nature and purpose of this project. The interviewee affirms that he/she/they has consented to this interview.

If you have any hesitation, we are able to stop the interview.

How can I tell if I have a Bacterial or a Viral Illness?

Antibiotics Don't Treat Viruses.

Common Respiratory Infections	Virus or Bacteria?	Are Antibiotics Needed?
Common cold/runny nose	Virus	No
Sore throat (except strep)	Virus	No
COVID-19	Virus	No
Flu	Virus	No
Bronchitis/chest cold (in otherwise healthy children and adults)	Either	Maybe
Middle ear infection	Either	Maybe
Sinus infection	Either	Maybe
Strep throat	Bacteria	Yes
Whooping cough	Bacteria	Yes

When an antibiotic is not prescribed, ask your healthcare provider for tips on how you can feel better.

Why can't I use antibiotics to treat viruses?

Improper use of antibiotics can lead to **worse sickness** that is **more difficult to treat**.

This can affect not only you, but also **those close to you**.

Do antibiotics have side effects?

Yes. Side effects include:

- *Rashes*
- *Dizziness*
- *Nausea*
- *Diarrhea*
- *Yeast infection*

Severe diarrhea could be a sign of a life-threatening infection called **C. difficile**.

If you experience these side effects, follow up with your healthcare provider.

A simple handout meant to be printed on the front and back of a card and distributed to patients when receiving antibiotics at a pharmacy