



Antibiotic Overuse

**ADVANCE PRACTICE REGISTERED NURSES' (APRNS')
CLINICAL PRACTICE STRATEGIES TO DETER
ANTIBIOTIC OVERUSE**

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**Advance Practice Registered Nurses' (APRNs') Clinical
Practice Strategies to Deter Antibiotic Overuse**

Introduction

- ▶ Despite evidence, unnecessary antibiotic therapy for acute respiratory tract infections (ARTIs) prescription use is common.
- ▶ The provider's communication of positive and negative treatment recommendations supports deterring antibiotic misuse.
- ▶ While there are reports of physician clinical practice strategies to deter antibiotic overuse, no studies specific to Advanced Practice Registered Nurses' (APRNs) practice behaviors were found.

Aims

- ▶ This study aimed to describe Texas APRN's clinical strategies to reduce antibiotic overuse for ARTIs in pediatric patients by investigating providers' use of:
 - ▶ Point of care testing,
 - ▶ Contingency planning,
 - ▶ Use of Complementary and Alternative Medicine (CAM), and
 - ▶ Communication techniques.

Methods

Framework

- ▶ **Evidence-based Guideline**
- ▶ The conceptual model of evidence-based guideline adherence framed the Case Scenario Questionnaire.

Population & Sample

- ▶ All Family and Pediatric APRN members of the Texas Nurse Practitioner professional organization (N=3,000) were invited to participate.
- ▶ Two hundred and sixty-eight (N=268) APRNs responded.

Case Scenario Questionnaire

- ▶ The CSQ was developed from clinical experience
- ▶ Field-tested (N=30) prior to the project using a Talk-A-Loud methodology with APRNs, physicians, and a physician assistant.
- ▶ A paper copy of the questionnaire is available for review.



Case Scenario Questionnaire

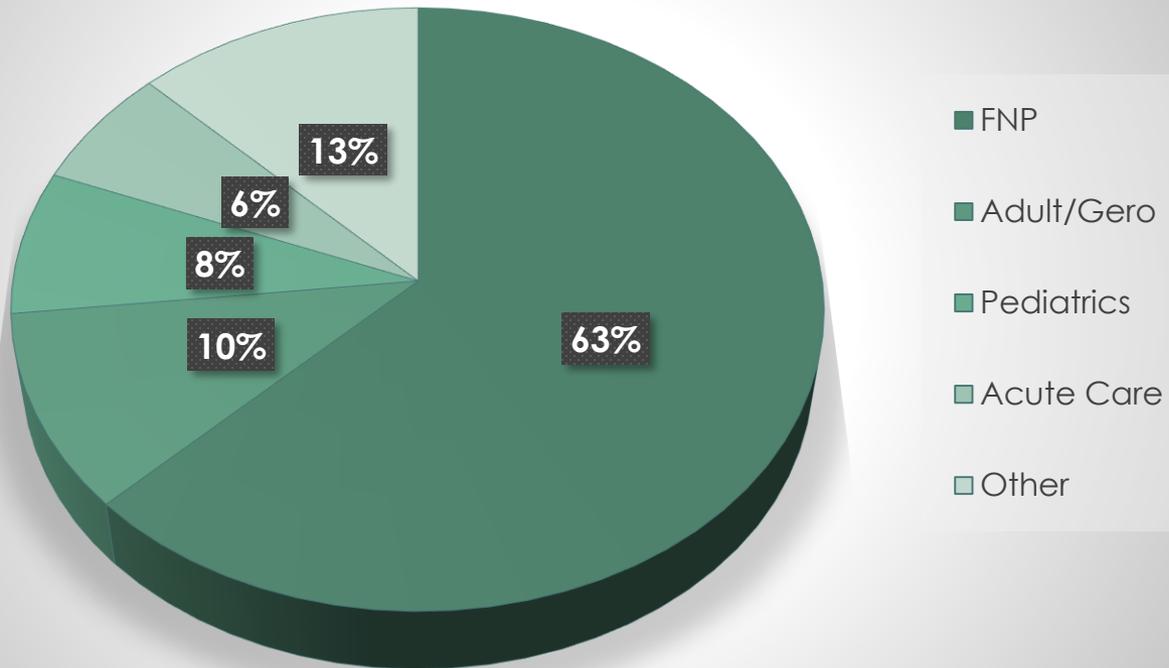
- ▶ Electronic format, 35-item survey and free-text open comment boxes
- ▶ Components:
 - ▶ Recognition of ARTI guidelines (2 items),
 - ▶ Use of point-of-care testing (1 item),
 - ▶ Use of contingency planning (2 items),
 - ▶ Identification of communication strategies (1 item), &
 - ▶ Determination of comfort care alternative & complementary management recommendations (1 item).

Sample

- ▶ Thirteen participants were not currently practicing and, therefore, did not meet inclusion criteria.
- ▶ Number = 255
- ▶ APRNs practice duration:
 - ▶ Most APRNs practiced in urban areas (n=189, 75%)
 - ▶ Age range – 1 to 37 years
 - ▶ Less than 10 years – 106 (42%)
 - ▶ More than 10 years – 149 (58%)

APRNs Practice Specialty

Clinical Practice



Results: Point-of-Care Testing

- ▶ Point-of-care rapid strep testing was performed by 60% (n=135) of the APRNs
- ▶ 35% (n=78) of clinics did not have testing, and
- ▶ 5% reported the test unnecessary to diagnose ARTI.



Results: Point-of-Care Testing



- ▶ Of those who use rapid tests, a negative result lead to 43% (n=56) proceeding to throat culture prior to prescribing antibiotics.
- ▶ Fifteen percent (n=19) did not prescribe an antibiotic, but educated the patient and family on home remedies for symptom management.

Results: Contingency Plans

- ▶ If no improvement was reported, antibiotics were prescribed.
- ▶ Fifty-nine percent (n=112) of **patients'/parents' expectations to receive antibiotics** affected the decision to prescribe antibiotics.



Results: Comfort/CAM Therapy

- ▶ **The most common reason for not prescribing antibiotics was that the illness was viral.**
- ▶ Recommended symptomatic care strategies included:
 - ▶ Fluids and rest (n=147, 82%)
 - ▶ Over-the-counter acetaminophen, decongestants, or cough medicine (n=113, 63%).

Results: Comfort/CAM Plans

- ▶ Use Andrographis 300 mg four times daily as soon as symptoms appear and continue for 3 to 4 days
- ▶ Use Echinacea three to four times daily for first 3 to 4 days
- ▶ Use *Pelargonium/ umckaloabo* 11% aqueous ethanolic extract (8g) 30 drops three times a day for those older than 12 years for 3 to 4 days
- ▶ Use hot moist air with eucalyptus oil or chamomile tea in the water; deep inhalations for 10 to 15 minutes several times a day
- ▶ Use nasal irrigations twice daily with normal or hypertonic saline (bulb syringe, nasal spray or neti pot) 1 to 2 times a day

Results: Comfort/CAM Plans

- ▶ MOST often recommended alternative therapies recommended were:
 - ▶ Saline nasal irrigation twice a day (n=72, 40%),
 - ▶ Vitamin C 500 to 1000 mg three times a day for first 3-4 days (n=38, 21%), and
 - ▶ Zinc gluconate or acetate every 2 hours while awake (n=33, 19%).

Conclusion

- ▶ **Patient/parents expect antibiotics for symptoms that are of viral etiology.**
- ▶ Texas APRNs must stay abreast of national guidelines of care for ATRIs and the majority are implementing **patient/parent education and clinical strategies to decrease the antibiotic overuse** for patients.
- ▶ Since **contingency plans and patient-centered education** are methods to avoid antibiotic overuse, challenges exist to address system approaches for APRNs' unique practice settings.

Follow-up Reminder Systems



- ▶ **Contingency plans** and patient-centered education to avoid antibiotic overuse
- ▶ Does the electronic medical record OR phone have a reminder application available to aide follow-up on patient status in 48-72 hours?

What patient-centered education is needed?



- ▶ Contingency plans and **patient-centered education** to avoid antibiotic overuse
- ▶ Should APRNs recommend and teach parents about alternative therapies OR home testing for strep?



Thank You!

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