Education Initiative Improves Antibiotic Prescribing in Respiratory Tract Infections in Rural Primary Care

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Presentation Information

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Learning Objectives

Antibiotic Stewardship in Respiratory Tract Infection (RTI)

Achieving Successful Practice Integration through:

- Clinical practice guidelines
- Effective educational interventions
- Key components of patient education
Problem

RTI Prescribing in PC

PCP Antibiotic Prescribing

Antibiotic Resistance

PC = Primary Care
PCP = Primary Care Provider
RTI = Respiratory Tract Infection
ROOT CAUSE ANALYSIS

CYCLE REINFORCERS

- Past Treatment
- Other Prescribers
  - Others on Antibiotics
  - Illness ends on antibiotics

PATIENTS

- Quick Fix
  - Expectations
  - Socioeconomic Factors
  - Cultural Factors

- Fear
- Beliefs

Lack of Knowledge:
- Viral Illness
- Self Care
- Antibiotics:
  - Appropriate Use
  - Potential Harms
  - Resistance

ANTIBIOTICS IN RTI

- Patient Demand
- Time constraints
- Fear bad outcomes

- Patient Satisfaction
- Believe will Obtain Elsewhere
  - Patient Perception of Doing Something

- PROVIDERS
- Lack Energy to Resist Demand

- Lack of Knowledge:
  - Effectively Educating Patient
  - Strategies to Reduce Prescribing
Clinical Practice Guidelines (CPG): RTI Management

Combined Approach

Prescribing Strategy

Active Education During Visit

No Antibiotic Prescription

Delayed Antibiotic Prescription

To take or pick up in a few days if symptoms worse
Patient Education

- Natural History & Duration of Illness
- Symptomatic Treatment
- Antibiotics Not Needed
  - *Unlikely to help*
  - *Potential side effects &/or harm*
- Symptoms to Watch / Return for
- Take Delayed Antibiotic Only If Symptoms Worsen
Purpose & Objectives

Implement Patient & Provider Education Initiative

- Evaluate Effects on Antibiotic Prescribing in RTI

  - Changes:
    - Antibiotic Prescriptions
    - Immediate Antibiotic Prescriptions
**Methods: Setting & Sample**

**Setting:**
Primary Care Office
Rural Kentucky

**Inclusion Criteria:**
--Age 2-65 years old
--Participating Provider Evaluation
--Diagnosis RTI
--During Established Time Periods

**Exclusion Criteria:**
--High Risk for Complications
--Bacterial Diagnosis
--Duration of Illness $\geq 10$ days
--Co-morbidities: COPD, asthma, immunosuppression
Intervention

Implementation 1 year:
March 1, 2014- February 28, 2015

Provider Education
■ No or Delayed Antibiotic Strategy
  +
■ Active Education During Visit

Patient Education
■ CDC “Get Smart” Posters
■ Active Education from Provider During Visit with Guideline components
■ Handout Specific for clinic patient population – Rural considerations
Procedures

- Quasi-experimental
  Pretest-posttest Design
- Retrospective
  Electronic
  Medical
  Record Review

Measures

- Was Antibiotic
  Prescribed?
- If yes, Immediate or
  Delayed?
- Demographics:
  - Gender
  - Age Group:
    - Child: 2-11
    - Adolescent: 12-17
    - Adult: 18-65

Sample

- Pre-Intervention
  Group (103)
- Post-Intervention
  Group (104)
No Significant Difference Between Groups in Gender ($p = .92$) or Age ($p = .24$)
# Results:
Difference in Antibiotics Prescribed

<table>
<thead>
<tr>
<th>Antibiotics Prescribed</th>
<th>Pre</th>
<th>Post</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any Type</td>
<td>58 / 103 = 56.3%</td>
<td>30 / 104 = 28.8%</td>
<td>Significant ↓ (p &lt; .001)</td>
</tr>
<tr>
<td>Immediate</td>
<td>32 / 103 = 31.1%</td>
<td>14 / 104 = 13.5%</td>
<td>Significant ↓ (p &lt; .05)</td>
</tr>
</tbody>
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Discussion

Findings

- Unexpected Findings
- Room for Improvement
- Rural populations

Limitations

- Sustainability
- Generalizability

Significant ↓ Total & Immediate Antibiotic Prescriptions = ↓ Antibiotic Use in RTI
Recommendations for Practice

- Antibiotic Prescribing
  - CAN BE CHANGED
- Even in challenging settings

- Education in Patients & Providers
  - IS EFFECTIVE
  - in Decreasing Antibiotic Use

- New Focus
Conclusions

Complex Problem

Need for Improvement

Study Importance: Antibiotic Stewardship IS ACHIEVABLE

”The first step towards getting somewhere is to decide that you are not going to stay where you are.”
Unknown
References


