Long-Term Care Facility

Improving Antibiotic Use Through Staff Education: UTIs & ASB

Lillian Tran

Introduction

ASB
Staff Education

Diagnosis

Guidelines

Recommendation

Treatment

Takeaway

Key Points

INTRODUCTION

Up to 70% of all abx prescriptions in LTCFs are inappropriate.

UTIs may be misdiagnosed in up to 40% -55% of those prescriptions in LTCFs

Asymptomatic bacteriuria

Refers to:

- Presence of bacteria in the urine, with or without pyuria, who have no symptoms specifically referable to a UTI
- Not associated with an increased risk of adverse outcomes

Appropriate Abx use: ASB

Treatment of ASB may cause harm:

Increased risk of subsequent UTI's

No increase in survival

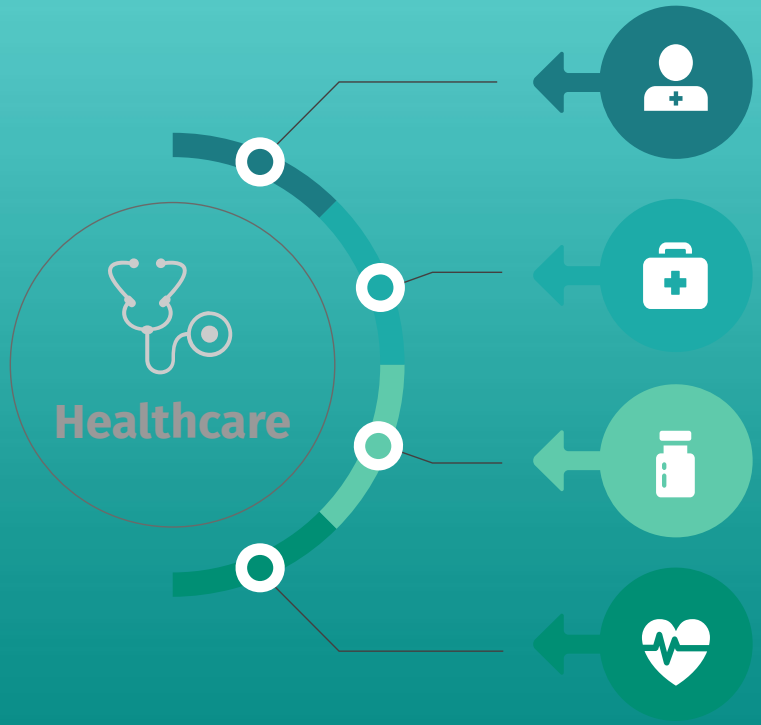
Adverse events and development of resistance

No decrease in rate of symptomatic UTI

No decrease in chronic GU symptoms

Core Elements

Staff Education



15 minute education for staffing on differentiation of UTI vs ASB

Clear communication between staff on treatment pathway

Appropriate antibiotic use for correct diagnosis

Decrease/elimination of antibiotic treatment for patients with ASB

SYSTEMATIC REVIEW

Antibiotic Prescribing in Long-Term Care Facilities: A Meta-synthesis of Qualitative Research

Aoife Fleming[1] · Colin Bradley[2] · Shane Cullinan[1] · Stephen Byrne[1]

Published online: 2 April 2015

Abstract

Objectives The objective of this review was to synthesize the findings of qualitative studies investigating the factors influencing antibiotic prescribing in long-term care facilities (LTCFs). These findings will inform the development of future antimicrobial stewardship strategies (AMS) in this setting.

Methods We searched Embase, PubMed, PsycInfo, Social Science Citations Index and Google Scholar for all qualitative studies investigating health care professionals' views on antibiotic prescribing in LTCFs. The quality of the papers was assessed using the Critical Appraisal Skills Programme (CASP) assessment tool for qualitative research. Thematic synthesis was used to integrate the emergent themes into an overall analytical theme.

Results The synthesis of eight qualitative studies indicated that health care professionals and administrators have identified factors that influence antibiotic prescribing in LTCFs. These factors include variations in knowledge and practice among health care professionals, and the LTCF context, which is unique given the complex patient population and restricted access to doctors and diagnostic tests. The social factors underpinning the interaction between nurses, residents' families and doctors also influence decision making around antibiotic prescribing. The study also found that there is an acknowledged need for collaborative, evidence-based AMS specific to LTCFs, as antibiotic prescribing is heavily influenced by factors unique to this setting.

Conclusion This review highlighted the key contextual challenges for AMS in LTCFs. The findings provide an in-depth insight into the factors—such as the LTCF context, social factors, variability in knowledge and prescribing practices, and antimicrobial resistance—that impact on antibiotic prescribing and AMS strategies. These factors must be considered in order to ensure the feasibility and applicability of future AMS interventions.

Key Points

The influences of the long-term care facility (LTCF) context and social factors have an important impact on antibiotic prescribing in this setting.

According to the findings of this review, future antimicrobial stewardship strategies must emphasize the importance of knowledge of guidelines and antimicrobial resistance, and the strategies must be specifically designed for implementation in the LTCF setting.

Appropriate Identification of UTIs

Misclassification of UTI

Potential Inappropriate Treatment of Suspected UTIs Among Nursing Home Residents

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7098804/

Reported Urinary Tract Infections

Measure	Total Sample *N* (%)	Nursing Home 1 *n* (%)	Nursing Home 2 *n* (%)
Reported UTI	175	85	90
Reported UTI in error[a]	6 (3.5)	5 (5.8)	1 (1.1)
Actual UTI[b]	4 (2.2)	3 (3.5)	1 (1.1)
Single species bacterial growth	122 (69.7)	77 (90.5)	45 (50.0)
No bacterial growth	43 (35.0)	0	43 (48.3)

Note. UTI 5 urinary tract infection.

[a]No information in chart in Nursing Home 1; URI was coded as UTI in Nursing Home 2.
[b]Presence of 3 of 5 criteria for those without catheter and 2 of 4 for those with catheter.

Correct Diagnosis: UTI or ASB

Difficult to distinguish between UTI or ASB in older patients

Leads to inappropriate antibiotic treatment of ASB

Many elderly people have bacteria in their urinary tract or their bladder

ASB is very common in people that are catheterized and residents of long term care homes

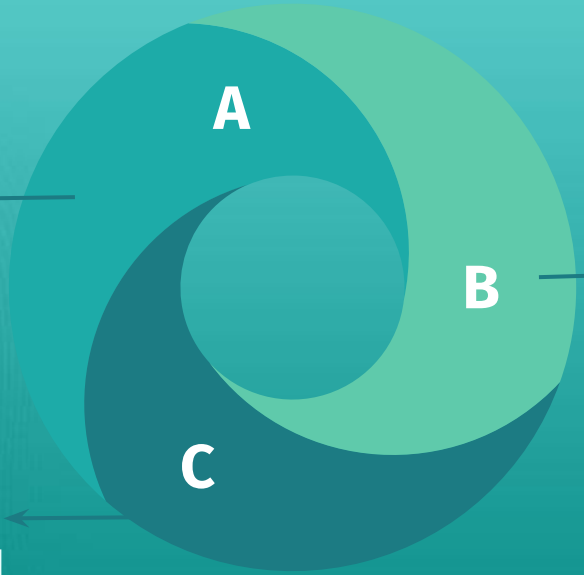
Correct Diagnosis: NOT indicative of UTI

Dark colored urine

Foul smelling urine

Confusion/agitation

Addressing Nonspecific Symptoms



Withhold empiric abx treatment

Observe for 24-48 hours and increase fluid intake

If clinical picture does not resolve, order UA, followed by UC

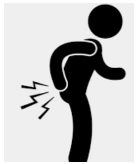
Symptoms of a UTI

Urinary frequency/urgency

Burning

Fever

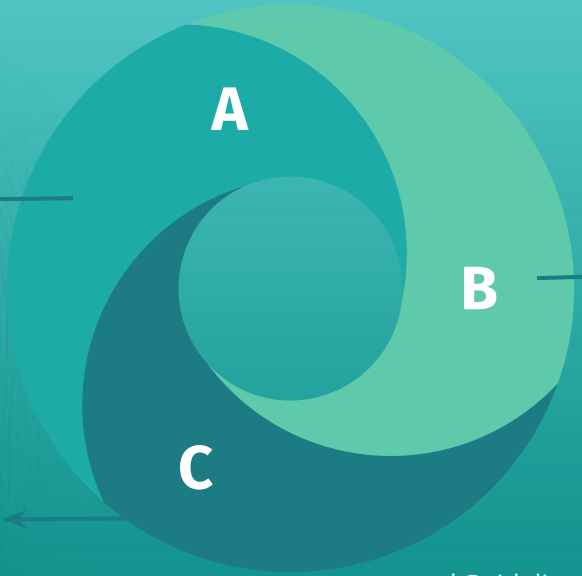
Lower abdominal pain



Rapid onset lower back pain

Hematuria

Management of Urinary Symptoms



Specific urinary symptoms

Urinalysis

If + for leukocyte esterase or nitrites, start ABX therapy

*Guidelines recommend screening and treating for ASB in 2 situations:

1. Pregnant women at 12-16 wks gestation
2. Impending urologic procedure in which mucosal bleeding is expected

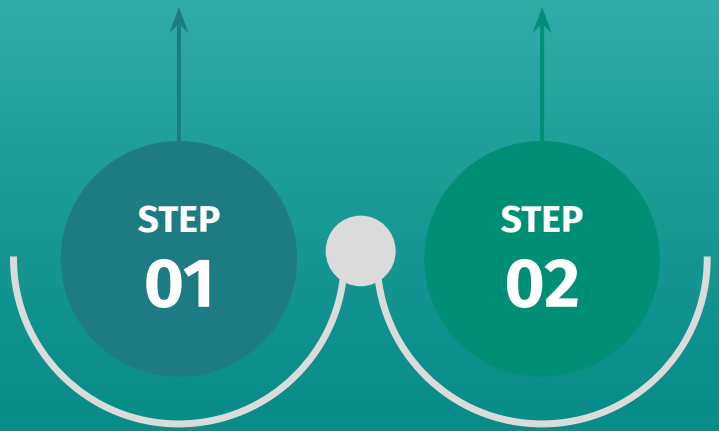
CHANGES

Staff

Communication
Education

Family

Education



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Key Points

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Family Education

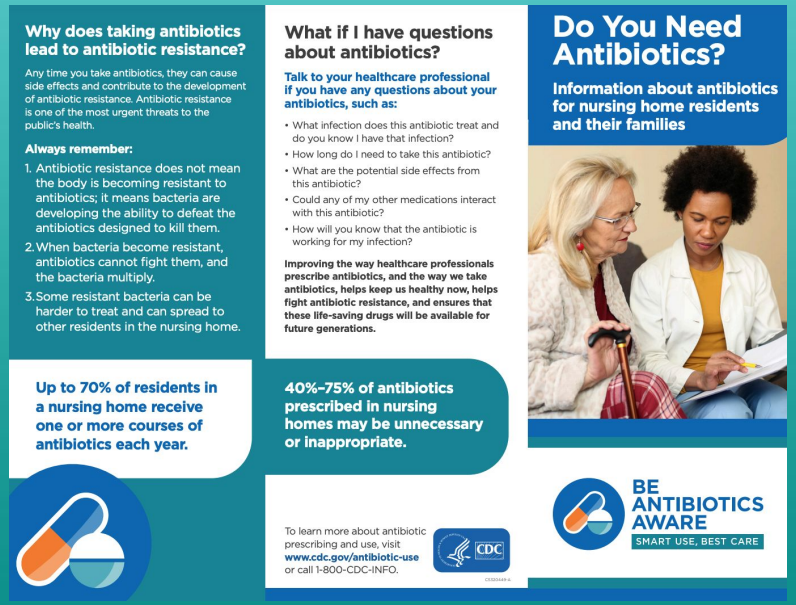
https://www.cdc.gov/antibiotic-use/pdfs/AU-nursing-home-trifold-brochure-P.pdf

https://www.cdc.gov/antibiotic-use/materials-references/index.html

https://www.cdc.gov/longtermcare/resident/index.html

https://www.cdc.gov/longtermcare/pdfs/factsheet-core-elements-what-you-need-to-know.pdf

Family Education



Why does taking antibiotics lead to antibiotic resistance?

Any time you take antibiotics, they can cause side effects and contribute to the development of antibiotic resistance. Antibiotic resistance is one of the most urgent threats to the public's health.

Always remember:

1. Antibiotic resistance does not mean the body is becoming resistant to antibiotics; it means bacteria are developing the ability to defeat the antibiotics designed to kill them.
2. When bacteria become resistant, antibiotics cannot fight them, and the bacteria multiply.
3. Some resistant bacteria can be harder to treat and can spread to other residents in the nursing home.

Up to 70% of residents in a nursing home receive one or more courses of antibiotics each year.

What if I have questions about antibiotics?

Talk to your healthcare professional if you have any questions about your antibiotics, such as:

- What infection does this antibiotic treat and do you know I have that infection?
- How long do I need to take this antibiotic?
- What are the potential side effects from this antibiotic?
- Could any of my other medications interact with this antibiotic?
- How will you know that the antibiotic is working for my infection?

Improving the way healthcare professionals prescribe antibiotics, and the way we take antibiotics, helps keep us healthy now, helps fight antibiotic resistance, and ensures that these life-saving drugs will be available for future generations.

40%–75% of antibiotics prescribed in nursing homes may be unnecessary or inappropriate.

To learn more about antibiotic prescribing and use, visit **www.cdc.gov/antibiotic-use** or call 1-800-CDC-INFO.

CDC

CS305449-A

Do You Need Antibiotics?

Information about antibiotics for nursing home residents and their families

BE ANTIBIOTICS AWARE

SMART USE, BEST CARE

Why is it important to *Be Antibiotics Aware* in nursing homes?

Antibiotics are life-saving drugs and are frequently prescribed in nursing homes. Remember, when antibiotics are needed, their benefits outweigh the risks of side effects and antibiotic resistance.

When antibiotics aren't needed, they won't help you, and the side effects could still cause harm.

What do antibiotics treat?

Antibiotics are only needed for treating certain infections caused by bacteria. Antibiotics are critical tools for treating life-threatening conditions such as pneumonia and sepsis, which is the body's extreme response to an infection.

What don't antibiotics treat?

Antibiotics do not work on viruses, such as those that cause colds, flu, bronchitis, or runny noses, even if the mucus is thick, yellow, or green. Antibiotics also won't help some common bacterial infections, including most cases of bronchitis, many sinus infections, and some ear infections.

What are the potential side effects of antibiotics?

Common side effects from antibiotics can include:

- Rash
- Nausea
- Yeast infections
- Dizziness
- Diarrhea

More serious side effects can include:

- Life-threatening allergic reactions
- Interactions between antibiotics and other medications
- Infections with antibiotic-resistant bacteria, including *C. difficile (or C. diff)*

What is a *C. diff* infection?

C. diff is a bacterial infection that needs immediate treatment. It can cause severe diarrhea that can lead to severe colon damage and death.

Antibiotics fight bacterial infections by killing bad germs, but can also get rid of the good germs that protect your body against harmful infections. The effect of antibiotics can last as long as several months. If you come in contact with *C. diff* germs during this time, you can get sick.

Symptoms of a *C. diff* infection include:

- Severe diarrhea
- Fever
- Loss of appetite
- Stomach tenderness or pain
- Nausea

More than 3 million Americans receive care or reside in nursing homes every year.

How can I stay healthy?

You can stay healthy and keep others healthy by:

- Insisting healthcare professionals and visitors clean their hands before touching you by washing with soap and water for 20 seconds or using a hand sanitizer that contains at least 60% alcohol
- Covering your cough to prevent the spread of germs
- Asking family or friends not to visit when they don't feel well
- Staying in your room when sick
- Protecting yourself by getting vaccines for flu and pneumonia and encouraging others around you to do the same

Talk to your healthcare professional about steps you can take to stay healthy and prevent infections.

CDC ABX Video

TAKEAWAY

Elderly patients should not be tested or treated for UTI unless they have clinical urinary symptoms

Antibiotic treatment of ASB can lead to drug resistant bacteria (i.e. C.diff)

Strong communication is needed between staff and ordering physician

Family education is important to help staff appropriately treat the residents

THANKS