



# Assessment of Rational Antibiotics Use at The Department of Health in Ramallah

**Lina Adwan PhD**

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- **Dr. Costa Shubeita**
- **Dr. Omar Tawil**
- **Dr. Fairouz Zayed**

# Introduction

- Appropriate antibiotic: using the **right antibiotic**, at the **right dose**, for the **right duration**, and at the **right time**.
- Antimicrobial resistance (AMR)
- Difficulty in developing new antibiotics

# Antibiotic Resistance

Antibiotic resistance occurs when bacteria change in response to the use of these medicines. It leads to higher medical costs, prolonged hospital stays, and increased mortality.

## The Cause



Over-prescribing of antibiotics



Patients not finishing their treatment



Poor Infection control in hospitals and clinics



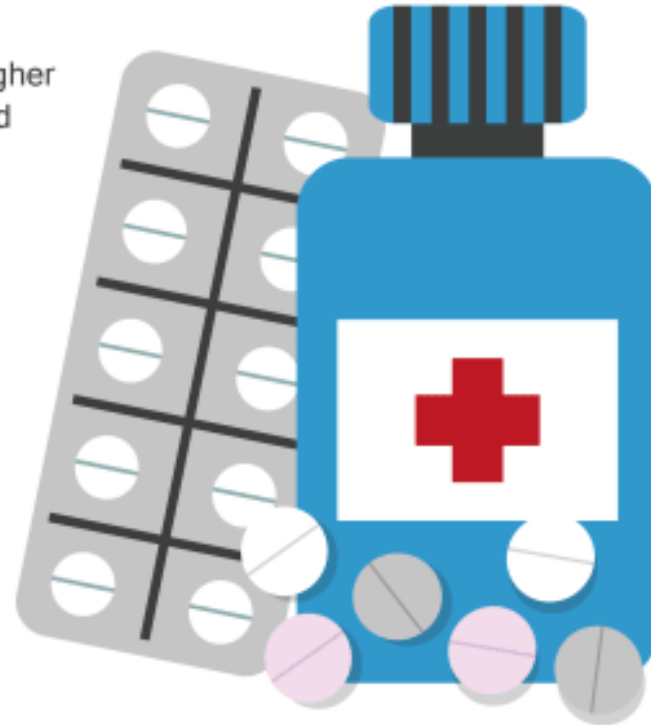
Lack of hygiene and poor sanitation



Lack of new antibiotics being developed



Over-use of antibiotics in livestock and fish farming



Antibiotic Resistance:

# HOW CAN WE STOP IT?

## 1. Improve labs:

Countries need medical labs to identify bacteria and choose the right drugs to treat them.



## 2. Collect and share data:

Countries need systems to track cases and report results globally to make better policy decisions.

## 3. Use antibiotics wisely:

To ensure antibiotics are here when we need them, they must be prescribed and taken correctly now.



## 4. Take measures to prevent infections:

Especially in healthcare settings, good infection control practices are critical to stopping spread of resistant germs.



## Do antibiotics have side effects?



Anytime antibiotics are used, they can cause side effects. When antibiotics aren't needed, they won't help you, and the side effects could still hurt you. Common side effects of antibiotics can include:



Rash



Dizziness



Nausea



Yeast Infections



Diarrhea

To learn more about antibiotic prescribing and use, visit [www.cdc.gov/antibiotic-use](http://www.cdc.gov/antibiotic-use).



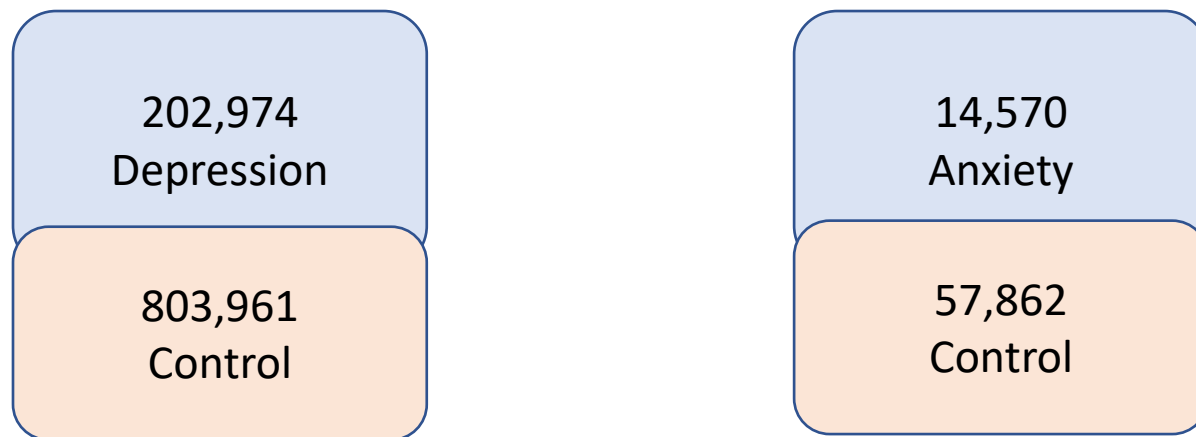
# Complications of antibiotic therapy

- Hypersensitivity
- Direct toxicity
  - Ototoxicity, nephrotoxicity etc.
- Superinfections
  - Drug therapy especially broad spectrum antimicrobials can lead to alterations to the normal flora of the upper respiratory, intestinal and genitourinary tracts permitting overgrowth of opportunistic organisms like fungi or resistant bacteria.
  - **These infections are difficult to treat**

> J Clin Psychiatry. 2015 Nov;76(11):1522-8. doi: 10.4088/JCP.15m09961.

## Antibiotic exposure and the risk for depression, anxiety, or psychosis: a nested case-control study

Ido Lurie <sup>1</sup> <sup>2</sup>, Yu-Xiao Yang, Kevin Haynes, Ronac Mamtani, Ben Boursi



Recurrent antibiotic exposure is associated with increased risk for depression and anxiety



## Study objectives

- Track and improve antibiotic prescribing at MOH clinic

# Methods

555 Prescriptions

Diagnosis

No diagnosis  
312

Non-specific  
diagnosis  
113

Precise diagnosis  
130

Indication

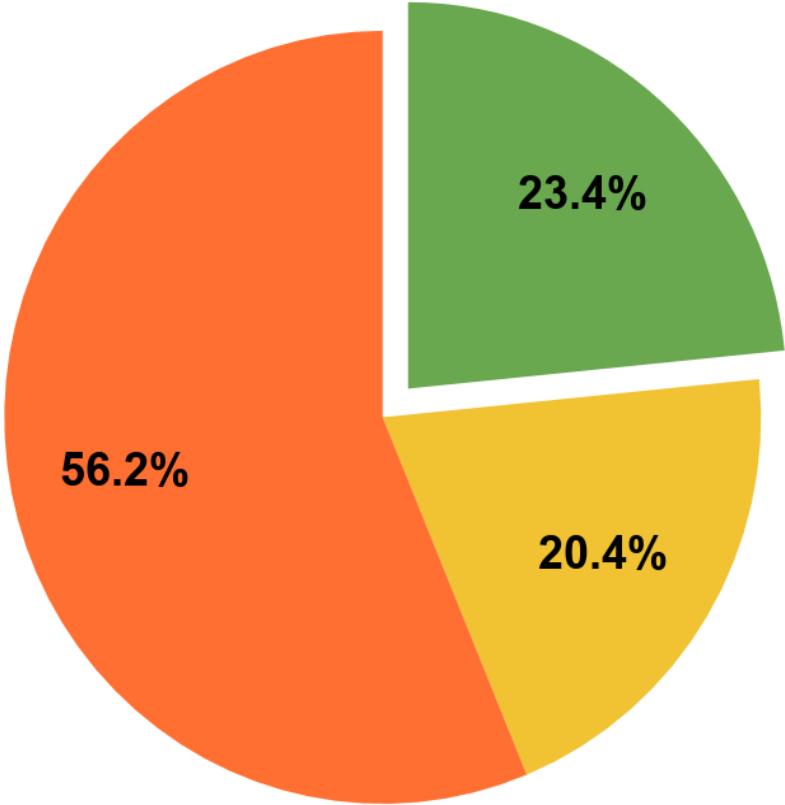
Appropriate  
21

Inappropriate  
109

Dosage

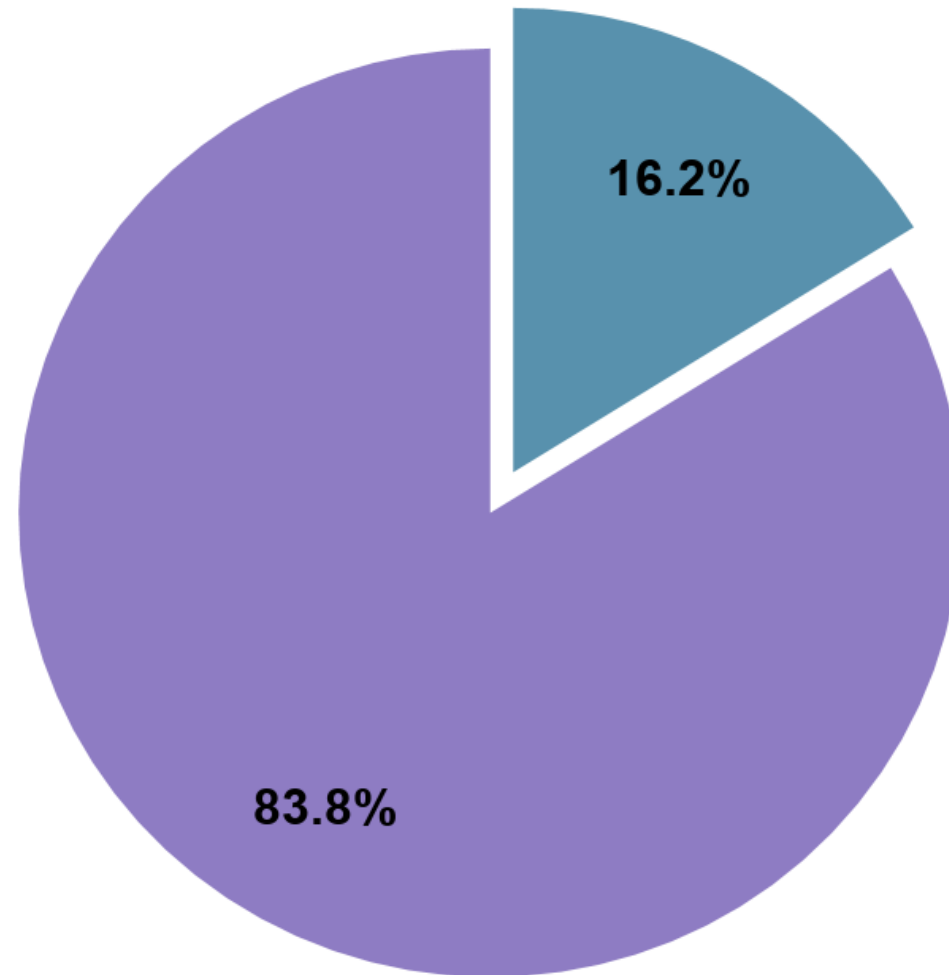
# Diagnosis Status

- Precise
- Unspecific
- Unwritten



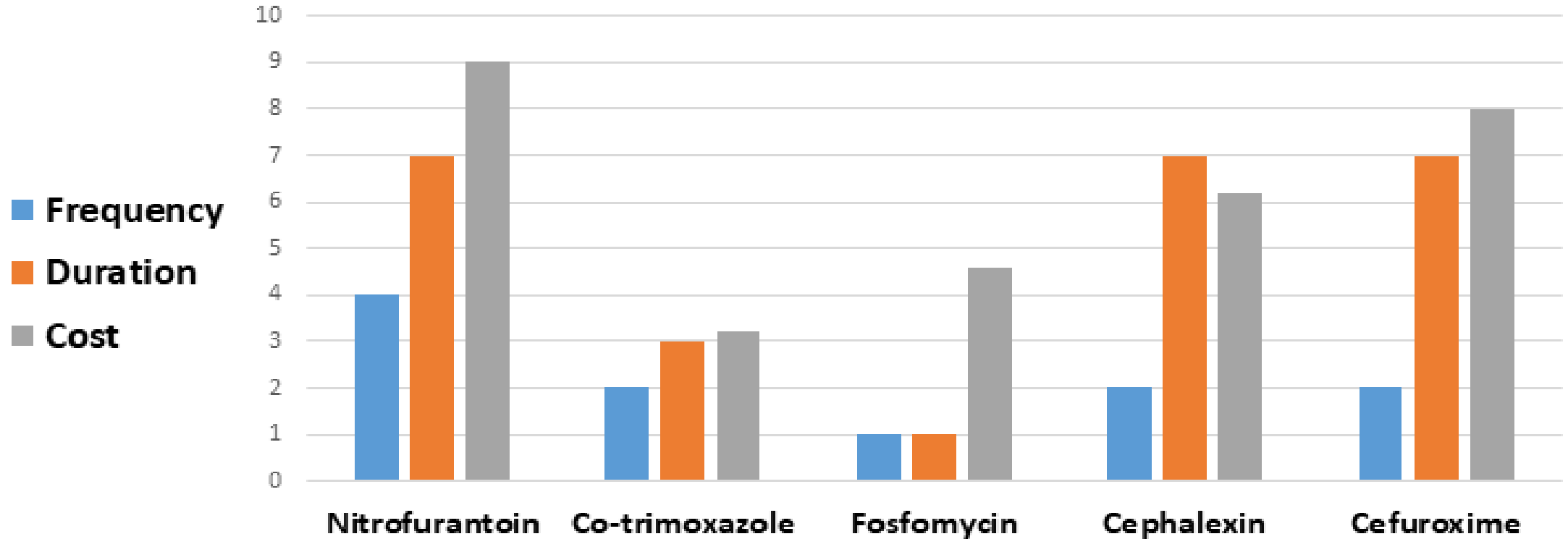
## Indication Status

- Appropriate
- Inappropriate



Diagnosis	ABx Indicated (n)	Appropriately Indicated ABx	Strength
Pharyngitis	Azithromycin (30)	2	+++ ++
	Co-amoxiclav (27)	0	
	Amoxicillin (6)	4	2(++) 2(+)
	Cefuroxime (1)	0	
UTI (Uncomplicated)	Cefuroxime (12)	0	
	Ciprofloxacin (4)		
	Co-amoxiclav (1)		
	Azithromycin (1)		
	Amoxicillin (1)		

**Comparison Between Antibiotics Used for Uncomplicated UTIs**



# Recommendations

- Improving medical records and documentation
  - Diagnosis, allergies, pregnancy,
- Following the treatment guidelines
- Choosing cost-effective agents
- Local resistance patterns and antibiograms

# Acknowledgments



- Palestinian MOH
- Dr. Costa Shubeita
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- Dr. Fairouz Zayed





- Antibiotics

- Amoxicillin
- Co-amoxiclav
- Cefuroxime
- Azithromycin
- Ciprofloxacin