Antibiotic use in a district hospital in Kabul, Afghanistan: are we overprescribing?

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The problem: Irrational medicine use

Globally, more than 50% of all prescriptions are unnecessary or incorrect

Irrational medicine use:
- Direct harm to patient
- Wasteful
- Stock-outs
- Antibiotic resistance development
The problem: Antibiotic resistance

- Positive correlation between outpatient antibiotic use and antibiotic resistance
- Death from infectious illness 2x as likely if the pathogen is resistant to the antibiotic (WHO 2014)

- Serious threat to global public health and MSF programmes. ‘Without urgent action, the world is heading towards a post-antibiotic era’ (WHO 2014)
Setting: Afghanistan

- MSF study shows very high resistance levels
- Anecdotal evidence over-use of antibiotics in OPD of MSF-supported Ahmad Shah Baba hospital
- Unregulated access to antibiotics and poly-pharmacy issues
Setting: Ahmad Shah Baba Hospital (Outpatient Department)

Only public hospital in ASB district
68 Beds
~ 7500 consultations /month
OPD has own outpatient pharmacy

Top 3 diagnoses:
1. URTI
2. Diarrhoea
3. UTI
Research Question:

Are we overprescribing?
Objectives

To assess:

- Frequency of antibiotic prescription (in function of the clinical diagnosis)

- Hospital-level adherence to total antibiotic dosages in standard treatment guidelines
Methods

- Design: cross-sectional study using routinely collected data (OPD prescriptions)

- Study population: All adult patient (≥15 years) attended OPD in Aug 2013 (summer) & Jan 2014 (winter)

- Ethics: Approved by MSF ERB, The Union & IRB Ministry of Public Health, Kabul, Afghanistan
Results: Antibiotic prescription rates

**Summer** (August 2013): 4,857 prescriptions  
**Winter** (January 2014): 4,821 prescriptions
Antibiotic prescription per diagnosis

Out of 4,821 “winter” prescriptions:
Hospital-level adherence to STG’s

Average prescribed doses, per diagnosis, were calculated at population level (expressed as Defined Daily Dosage – DDD), and compared with the doses recommended in the MSF standard treatment guidelines:

Diarrhoea:
Hospital-level adherence to STG’s

Average prescribed dose, per diagnosis, were calculated at population level (expressed as Defined Daily Dosage – DDD), and compared with the doses recommended in the MSF standard treatment guidelines:

URTI:
Hospital-level adherence to STG’s

Average prescribed doses, per diagnosis, were calculated at population level (expressed as Defined Daily Dosage – DDD), and compared with the doses recommended in the MSF standard treatment guidelines:

UTI:
Hospital-level adherence to STG’s

Average prescribed doses, per diagnosis, were calculated at population level (expressed as Defined Daily Dosage – DDD), and compared with the doses recommended in the MSF standard treatment guidelines:

Dental:
Conclusions

1. Are we overprescribing? Yes, high proportions of patients receive antibiotics

2. Prescribing behaviour may be irrational:
   a) High prescription rates for conditions which are often viral (diarrhoea, URTI) or which may not require antibiotics (dental conditions)
   b) Inappropriate choice of certain antibiotics for specific conditions

3. The total dosages per diagnosis prescribed followed the MSF standard treatment guidelines
Next steps?

- Simplified diagnostics to make specific diagnoses of **bacterial** infections could reduce unnecessary antibiotic prescription.

- With better diagnostic, antibiotic stewardship is possible (adherence to STGs).

- Next question: Why are we overprescribing? Qualitative research (over to you, Doris!)
Acknowledgments

The Ahmad Shah Baba team
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