

Antibiotic prescribing for children in general practice and adherence to treatment guidelines 2010-2012

- Study protocol -

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Introduction

- **Over 80% of AB prescribed in general practice, mainly for viral RTIs in children**
- Numerous efforts to improve AB prescribing have been ongoing for decades
- Treatment guidelines are developed to support GP decision-making on which RTIs require AB
- **Detailed information on adherence to RTI treatment guidelines for AB prescribing in children is scarce**

AB use trends

- Overall reduction in AB rates for children in industrialised countries since late 1990s
 - **but, AB still prescribed for non-specific URTIs diagnoses**
 - **often broad-spectrum products**
- Netherlands has low and stable AB use in primary care
- National RTI guidelines generally accepted by Dutch GPs
 - **but, AB prescribing not always in line with recommendations**
 - **no assessment of adherence to RTI guidelines for children**

Study aim

- **to explore AB prescribing patterns for fever, ear and RTIs in Dutch children 2010 – 2012**

Objectives

1. to determine guideline adherence in AB prescribing for different paediatric RTIs and choice of antibiotics
2. to examine potential variations in guideline adherence among GPs

Methods

- We use prescribing data and children' diagnoses (ICPC-1) from NIVEL Primary Care Database (NPCD)
- GP prescriptions: information on drug name, prescribing date and drug amount
 - AB = antibacterials for systemic use (ATC code J01)
- Sample size drawn from outpatient visits made by children below 18 years
 - receiving AB prescription
 - and/or reporting fever, ear or respiratory infection

ICPCs of interest

- 1. Fever - A03**
- 2. Acute otitis media - H71**
- 3. Pneumonia - R81**
- 4. Acute bronchitis / bronchiolitis - R78**
- 5. Sinusitis acute / chronic - R75**
- 6. Strep throat / scarlet fever - R72**
- 7. Acute tonsillitis - R76**
- 8. Acute respiratory tract infections - R74**

Inclusion criteria

- ICPC matched with clinical conditions (national guidelines)
- Different consultations concerning same health problem within pre-set time frame linked to one disease episode
 - **1st set of outcomes measure GP adherence to recommendations on whether or not to prescribe antibiotics for the diagnosis**
 - **2nd set evaluate antibiotic types prescribed**
- Outcomes defined by disease-specific indicators for outpatient antibiotic prescribing

<u>Dutch NHG guidelines</u>	<u>Diagnosis and ICPC</u>	<u>Indications for AB prescription</u>
Fever	Fever A03	No
Acute otitis media	Acute otitis media H71	Restrictive use, including - age <6months / 2 years with 2- sided AO-child with otorrhea
Acute cough	Pneumonia R81	Always
Acute cough	Acute bronchitis / bronchiolitis R78	No
Rhinosinusitis	Sinusitis R75	Restrictive use
Acute sore throat	Strep throat / scarlet fever R72	Always
Acute sore throat	Acute tonsillitis R76	Restrictive use
No specific guidelines	Acute URTI R74	No or restrictive use

<u>Diagnosis and ICPC</u>	<u>AB selection (ATC)</u>
Acute otitis media H71	1st choice: Amoxicillin J01CR04 2nd choice: Azithromycin J01FA10 or Cotrimoxazole J01EE01
Pneumonia R81	1st choice: Amoxicillin J01CR04 2nd choice: Azithromycin J01FA10
Sinusitis R75	1st choice: Amoxicillin J01CR04 or Doxycycline J01AA02 2nd choice: Azithromycin J01FA10 or Erythromycin J01FA01
Strep throat R72	1st choice: Penicillin V – Phenoxymethylpenicillin J01CE02 2nd choice: Azithromycin J01FA10, Amoxicillin/clavulanic acid J01CR02 or Clindamycin J01FF01
Acute tonsillitis R76	1st choice: Penicillin V – Phenoxymethylpenicillin J01CE02 2nd choice: Azithromycin J01FA10, Amoxicillin/clavulanic acid J01CR02 or Clindamycin J01FF01

Study analysis

- SPSS v. 20.00 will be used to obtain:
 - overall incidence rates for each ICPC
 - % of disease episodes with prescribed AB (any/first-choice)
- Analysis to be done for years 2010/2011/2012 separately and for sub-groups of interest (age, gender, etc)
- Multilevel analysis will be done to check for variability in AB prescribing quality among GPs