Diagnosis and Therapy of Acute Cough and Lower Respiratory Tract Infection in General Practice of Switzerland: a Cross-sectional Study Conducted by Students

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Introduction/ Background

Acute cough is one of the most common reasons why patients see a general practitioner (GP) (1,2). Depending on the symptoms and signs of lower respiratory tract infection (LRTI) the GP may order various diagnostic tests such as X-ray, C-reactive protein (CRP) or white blood cell count (3). Therapeutic management will be started on the basis of test results and the clinical picture.
Medical students at University of Bern, Switzerland, undertake a 3 week clerkship in general practice during the 4th and 5th year of their undergraduate medical education. In this study they will collect the data and report back to their preceptors.

Aim of study

The primary aim is to assess how and why GPs proceed from diagnosis of cough and LRTI to therapy with a special focus on antibiotic prescribing.
The second objective is to find out whether medical students are prepared to get involved in a scientific study during undergraduate medical education.

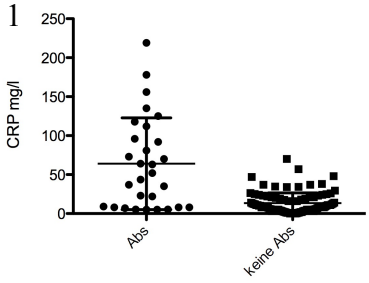
Methods

Around 60 medical students record patients with acute cough attending a primary health care (PHC) doctor.
Each student is estimated to witness about 300 consultations of which 9% are presenting with cough and 3% with a LRTI lasting less than three weeks.
Thus about 600 cases can be evaluated.

Preliminary results

In a pilot study, twelve medical students recorded 125 patients with acute cough and LRTI. All GPs agreed to have students collecting clinical data in their practices. They spent no more than one hour for discussing the entire set of data with the student. The students themselves were present together with the GP in four out of five consultations. Their work-load amounted to four hours.

1



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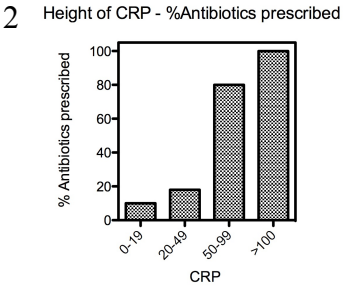

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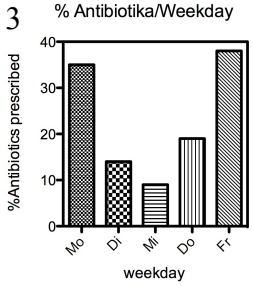

Overall antibiotics were given in 24% of all cases. Patients who were prescribed antibiotics had a significantly higher CRP than those who were treated symptomatically (CRP 64 +/- 59 mg/l (n=29) vs. 13 +/- 13 mg/l (n= 96), p<0.0001) (figure 1).
The rate of antibiotic prescription correlated with the height of the CRP (figure 2). A CRP lower than 20 mg/l was followed by antibiotics in 10%, a CRP between 20 and 49 mg/l was followed by anbibiotics in 20%, a CRP between 50 and 99 ng/l was followed by antibiotics in 80% and a CRP 100 ng/l or higher was followed by antibiotics in 100% of all cases.
There is a trend to prescribe antibiotics on Fridays more frequently than on other weekdays (p=0.051) (figure 3).

Discussion/ Conclusions

In a pilot study we used medical students as „data collectors“ in general practices of their teaching GPs. With there assistance, we were able to collect data from patients suffering from acute cough and LRTI.
The rate of antibiotic prescription in these patients is comparable to what is found in studies from other countries, and strongly depends on the height of the CRP. The increased rate of antibiotic prescribing on Fridays needs further investigations.
The final data collection by student is running from October to November 2013.

References
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