

The regional profile of antibiotic prescriptions in Italian outpatient children.

Piovani D, Clavenna A, Cartabia M, Bonati M; Antibiotic Collaborative Group (Gagliotti C, Pan A, Moro ML members of the Antibiotic Collaborative Group).

Source

Department of Public Health, Laboratory for Mother and Child Health, Mario Negri Institute for Pharmacological Research, Via Giuseppe La Masa 19, Milan, Italy. daniele.piovani@marionegri.it

Abstract

PURPOSE:

To evaluate paediatric antibiotic prescription patterns in Italy in an extra-hospital setting at the national, regional, and Local Health Unit (LHU) level.

METHODS:

Data sources were regional prescription databases. Eight Italian regions participated in the study providing data for the year 2008, with two exceptions (where the data for 2009 and 2006 were provided instead). A total of 4,828,569 children were included: 58% of the Italian population under 15 years old. Antibiotic prevalence rates, prescription rates and prescriptions distribution by class were evaluated at the regional and LHU levels. The correlation among mean latitude, Human Development Index (HDI), hospitalisation rate, satisfaction index for the National Health Service, number of paediatricians per 1,000 resident children and prevalence rate was evaluated by regions.

RESULTS:

The estimated pooled average prevalence rate was 50.5% (95%CI 45.7-55.3). Between-regions prevalence rates ranged from 42.6% to 62.1% and at the LHU level they ranged from 35.6% to 68.5%. There was a trend indicating that in southern regions antibiotics are more frequently prescribed than in the northern and central regions (Cochrane-Armitage test $Z = -187.5$ $p < 0.0001$). Overall, penicillin covered 53.1% of antibiotic prescriptions, with differences between regions ranging from 39.2% to 62.5%. A direct correlation was found between the prevalence rate and HDI ($p = 0.031$), while an inverse correlation was found with paediatricians per 1,000 resident children ($p = 0.038$).

CONCLUSIONS:

We found that relevant differences exist between the northern and the southern part of the country, and the heterogeneity among LHUs is higher. The greater use of antibiotics in the southern regions is related to lower HDI and does not seem to be justified by the higher prevalence of infectious diseases.