

Pan A, Buttazzi R, Marchi M, Gagliotti C, Resi D, Moro ML; Antibiotic Use and Resistance Surveillance Study Group of Regione Emilia-Romagna.

Secular trends in antibiotic consumption in the adult population in Emilia-Romagna, Italy, 2003-2009.

Clin Microbiol Infect. 2011 Nov; 17(11):1698-703. doi: 10.1111/j.1469-0691.2011.03500.x. Epub 2011 May 20.

Source

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Abstract

Antibiotic resistance is closely related to antibiotic use and Italy is a country with high levels of both antibiotic use and antimicrobial resistance. We analysed the trend in antibiotic use in the community among adults (≥ 15 years) and elderly, in the period 2003-2009, in Emilia-Romagna, Italy, a region with over 4 000 000 inhabitants. Data regarding antibiotic use were obtained from the regional public health system databases. Between 2003 and 2009 the antibiotic consumption increased from 15.4 to 18.7 defined daily doses/1000 inhabitants per day (DID) (+21.4%, $p < 0.0001$). The prescription rate in 2009 was 2.19 prescriptions/1000 inhabitants per day, an increase of 13.8% compared with 2003. The highest increase in antibiotic use was observed among persons aged 20-59 years (+24.7%). The proportion of inhabitants receiving at least one antibiotic treatment was 36.4% in 2003 and 39.7% in 2009, and the proportions receiving at least three antibiotic treatments were 3.5% and 4.2%, respectively. The H1N1 pandemic was associated, in October and November 2009, with a 37-90% increase in antibiotic use among the 15-19-year and 20-59-year age groups compared with 2007 and 2008. No other difference was observed in any other age group. The analysis per antibiotic class showed increases for penicillin + beta-lactamase inhibitor (from 3.6 to 6.3 DID), quinolones (from 2.6 to 3.0 DID) and macrolides (from 3.1 to 3.7 DID), whereas cephalosporin use was stable (1.4 DID). A steady increase in antibiotic use in the adult population has been observed in the Emilia-Romagna: public health interventions are mandatory to counteract this trend.