

Public knowledge and attitudes related to antibiotic use in the Southern Great Plain of Hungary: a questionnaire-based pilot study

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Külgazdasági és Külügyminisztérium



Introduction

Antibiotics are essential components of modern medicine, but their inappropriate use by patients threatens their effectiveness. The emergence of antibiotic-resistant bacteria is a global public health burden that has implications for everyone, regardless of age, gender, income or place of residence, but the impacts on human health will likely to be highest in poorer countries, as the spread of pathogens is facilitated by poor hygiene, water pollution, overcrowding in urban areas and civil conflicts. Evidence from around the world indicates an overall decline in the total stock antibiotic effectiveness: resistance to all first-line and last-resort antibiotics is rising.

The aim of our study was to evaluate the public knowledge and attitudes toward antibiotic use in the southern part of Hungary.

Methods

A self-administered questionnaire-based study was performed at general practitioners' (GP) offices at health centers in the Southern Great Plain of Hungary. The questionnaires were developed in accordance with the Special Eurobarometer 407 report of the European Commission on antimicrobial resistance.

The study protocol was approved by the Human Investigation Review Board at the University of Szeged (Registration number: 3688 [215/2015-SZTE]). Participants provided an informed written consent.

Statistical analyses were performed using IBM SPSS Statistics 24.0 software (descriptive and analytical statistics, χ^2 -test; level of significance: $p < 0.05$).



Figure 1. Data collection site in Hungary (Southern Great Plain)

Results

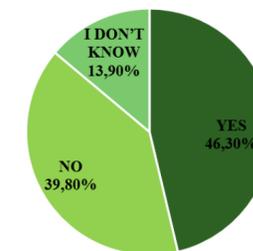
Data collection has been running since April 2016. The 109 respondents (with a rejection rate of 48.1%) involved 60.6% female patients, with an average age of 50.76 ± 17.77 years.

45.9% was employed at the time of the study. 53.7% reported one or more chronic illnesses. 64.8% of the responders were satisfied with their knowledge on infectious diseases, predominantly women ($p < 0.001$). According to 44.9% of the responders, the media does not pay enough attention to spreading awareness on the topic of infectious diseases (female dominance, $p = 0.024$). 77.8% believes vaccinations are important tools in the prevention of infectious diseases.

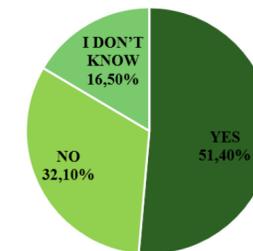
39.4% has received advice in the last 12 months (mostly from GPs and community pharmacists) not to take antibiotics when it's unnecessary; 11.8% chose not to take the advice. 31.6% stated that they took these drugs to treat tonsillitis and pharyngitis (of unknown cause), while 13.2% took them to treat the common cold and 6.6% for influenza. The majority (39.3%) reported GP's as their main source of knowledge related to infectious diseases and antimicrobials, followed by pharmacists (13.2%), TV and radio, internet sources (both 11.1%) and previous studies (10.6%).

32.1% of the responders took antibiotics during the last 12 months. 34.8% believes that they should stop taking antibiotics once they are symptom-free. 4.6% of the responders have attempted to obtain antibiotics without a doctor's prescription, and 13.8% believed that, if necessary, they could obtain these drugs (from a pharmacy) without a prescription, typically people living in urban areas ($p = 0.021$)

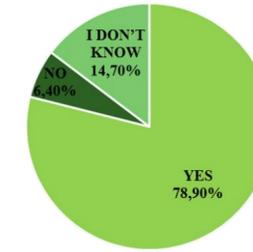
The cold and the flu can be effectively treated with antibiotics



Antibiotics are effective against viruses



Not proper use of antibiotics can lead to their decreased effectiveness



Side effects like eg. diarrhea can occur during antibiotic treatment

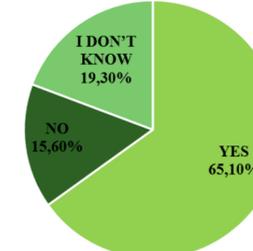


Figure 2. Answers of the respondents to reference questions of the Special Eurobarometer 407

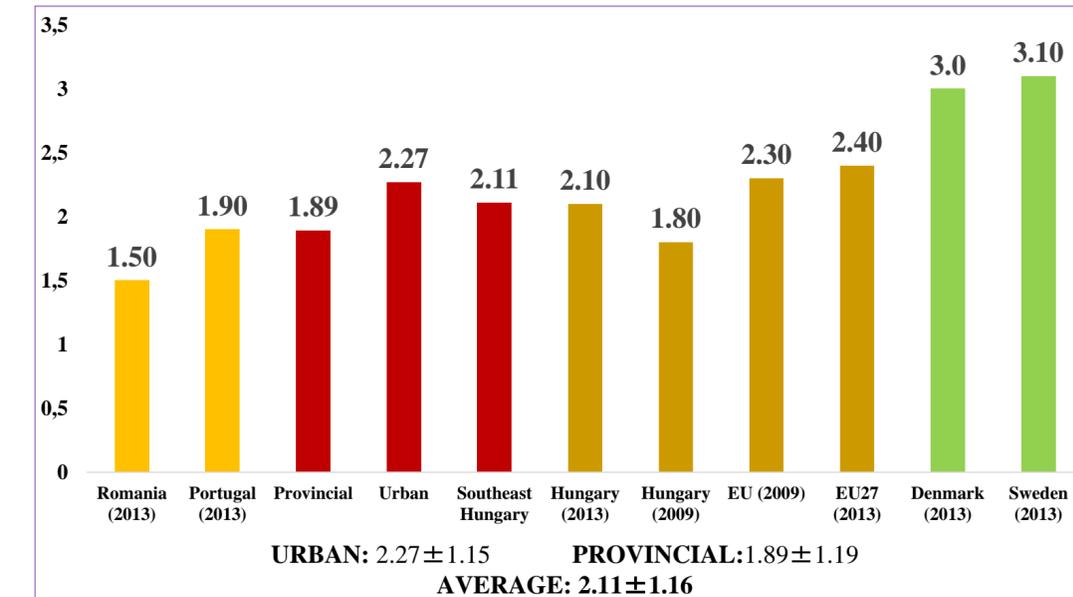


Figure 3. Number of correct answers in the study area and comparative data (Source: Special Eurobarometer 407)

There was significant correlation between the number of correct answers and education level ($p < 0.001$), however there was no correlation between their health status, age or place of residence. 75.0% believes that antibiotics are medicines of special importance. There was significant correlation between the opinion about AB's and education level ($p = 0.049$), and the number of doctor visits due to infectious disease ($p = 0.021$).

Conclusions

Antibiotics are medicines of vital importance and users need to manage them adequately. There must be a change in attitude on the patients' level, to avoid the unnecessary use of these drugs. The involvement of behavioral sciences and investment in patient education by medical professionals and governmental agencies could be of great significance in achieving development.

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The authors declare that there is no conflict of interest.