

# GENERAL PUBLIC AND ANTIMICROBIALS: CURRENT STATE OF KNOWLEDGE IN RUSSIA

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Leonid S. Stratchounski

Svetlana A. Ratchina

Irina V. Andreeva

Contact information:

Professor Leonid S. Stratchounski, MD, PhD  
Director of Institute of Antimicrobial Chemotherapy

PO Box #5, Smolensk, 214019 Russia,  
P.: +7 0812 61 13 27; F.: +7 0812 61 12 94  
E-mail: str@antibiotic.ru | www.antibiotic.ru

Institute of Antimicrobial Chemotherapy, Smolensk, Russian Federation

## INTRODUCTION

The emergence of antimicrobial resistance is a major global public health problem. Inappropriate and uncontrolled usage of antibiotics (ABx) is one of the most urgent problems worldwide leading to the increase of antimicrobial resistance and dissemination of infectious diseases. There is a complex relationship between the consumption of ABx and the incidence of drug-resistant microorganisms. Furthermore imprudent use of ABx is harmful for the health of a particular patient due to the risk of adverse drug reactions, masking the symptoms of infection.

## OBJECTIVE

To evaluate public awareness of antimicrobials and investigate routine practice of antibiotics' usage and self-medication.

## METHODS

Anonymous telephone survey was performed in 7 Russian cities (Fig.1). In towns with the population less than 1,000,000 – 300 phone numbers were randomly selected from electronic phone databases, in cities with population more than 1,000,000 – 600 phone numbers. The study was carried out by physicians, who interviewed respondents by phone about their willingness to participate in a telephone survey. If the respondent agreed to participate the physician interviewed him using a standard questionnaire which was provided by Professor H. Giamarellou and Dr A. Antoniadou (Greece) and adapted for Russia.

## RESULTS

Telephone calls were made to two thousand three hundred and seventy-nine respondents, 1997 (84%) invited to participate, agreed.



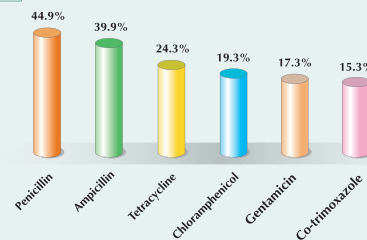
Fig. 1. Geographical location of the centers participating in the study (number of respondents)



## General description of participants

Mean age of respondents was 42.6±16.2 years; 70% were females, 30% – males. Higher education was reported by 38.6% of respondents, incomplete higher education – by 12.2%, specialized secondary education – by 30.6%, secondary education – by 15.7% and only 2.8% – by incomplete secondary education; 5.3% of respondents had higher medical or pharmaceutical education.

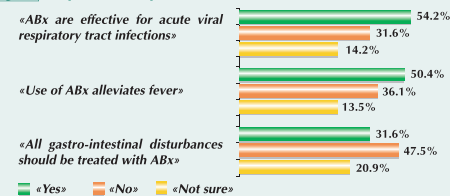
Fig. 2. Most commonly named ABx (%)



## Respondents' opinion about ABx

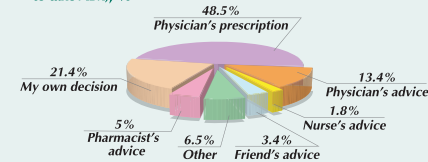
Effectiveness of ABx for common cold and acute viral respiratory tract infections was acknowledged by 1082/1997 respondents (54.2%); 1007 (50.4%) considered use of ABx effective for high temperature; 631 (31.6%) indicated necessity to use of ABx for gastro-intestinal disorders (Fig. 3). The majority of respondents (71.3%) were concerned about antimicrobial resistance and possible side effects of ABx (76.4%). However, 891 respondents (44.6%) preferred ABx to be OTCs, 1436 (71.9%) – to have them in their home medicine cabinets (HMCs) and 1140 (57.1%) – do have ABx in their HMCs.

Fig. 3. Respondents' opinion about ABx



The majority of respondents (1028/1997, 51.5%) bought ABx without prescription (on advice of pharmacist, nurse, or their own decision) (Fig.4).

Fig. 4. How did you buy ABx in the most recent case (who recommended to take ABx), %



## DISCUSSION

Three main factors may be singled out that account for the level of ABx awareness in Russia.

1. The mass media and physicians provide general public with insufficient information about infectious diseases and ABx.

As a result patients are forced to seek a medical advice of non-professionals, who may provide inappropriate recommendations for ABx choice.

2. Patients frequently «imitate» physicians' practice.

The majority of ABx named by respondents in the current study were the most often prescribed agents in outpatient settings (ampicillin, co-trimoxazole, tetracycline, gentamicin) being the cheapest ABx in Russia. It is important to notice that these drugs may cause serious adverse reactions.

3. OTC availability of ABx in pharmacies. Even though ABx are not officially included in OTC-medications list in Russia, they can be freely purchased from state- and privately-owned drug-selling outlets.

Thus,

- ▶ cessation of the over-the-counter selling of ABx,
- ▶ development of continuous educational programs for patients and
- ▶ intervention studies to monitor the impact of implemented measures are the most effective and the simplest control actions to combat antimicrobial resistance.

## CONCLUSIONS

1. A large part of general public participated in the study don't have sufficient knowledge of ABx.

2. The majority of respondents (71.9%) preferred to have ABx in HMCs and 57.1% do have them.

3. Such drastic measures as national public education campaign and implementation of state regulation of ABx sales policy are of crucial importance.

▶ Acknowledgments

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