

# Analysis of antibacterials for systemic use recommended for the treatment of patients with community-acquired pneumonia in Ukraine according to the modern approach to preventing the development of antimicrobial resistance

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**Conflict of interest:** none

**BACKGROUND.** According to a 2019 epidemiological study, antibiotic resistance (AR) caused about 1.27 million deaths worldwide, with lower respiratory tract infections (particularly pneumonia) dominating the global disease burden caused by resistant microorganisms.

**OBJECTIVE.** To determine the compliance of antibiotics (J01), which are recommended by the guidelines of the National Academy of Medical Sciences of Ukraine for the empiric therapy of community-acquired pneumonia (CAP) in adults, with World Health Organization (WHO) recommendations based on the prevention of the development of AR.

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**MATERIALS AND METHODS.** Objects – antibiotics (J01) recommended by the guideline and their belonging to the access, watch and reserve groups according to the WHO AWaRe classification of antibiotics. Methods: system overview, analytical, comparison and generalization.

**RESULTS AND DISCUSSION.** In the guidelines for empiric therapy of CAP in adults, antibiotics of 7 groups are recommended, from which 36 international non-proprietary names (INNs) were selected and analyzed. Of these, 7 INNs belong to the access group, of which only 4 antibiotics (amoxicillin, amoxicillin / clavulanic acid, gentamicin, doxycycline) are recommended by WHO experts for empiric treatment of CAP in adults; 26 INNs belong to the watch group, but only 3 antibiotics (cefotaxime, ceftriaxone, clarithromycin) according to the WHO database are recommended as empiric therapy for the severe CAP in adults. Ceftaroline, according to the WHO AWaRe antibiotic classification, belongs to the reserve group and should be used to fight multiresistant microorganisms. No antibiotic of the reserve group is recommended by WHO for empiric therapy of CAP.

**CONCLUSIONS.** The results of the analysis can be used in updating the recommendations for rational empiric antibiotic therapy of CAP, taking into account the mechanisms of resistance to the development and spread of AR.

**KEY WORDS:** antibiotic resistance, community-acquired pneumonia, rational antibiotic therapy, AWaRe classification, antibiotics.