

Antibiotic prescription patterns at admission into a tertiary level intensive care unit in Northern India.

Williams A, Mathai AS, Phillips AS.

Source Departments of Anesthesiology and Critical Care, Christian Medical College, Ludhiana, Punjab, India.

Abstract

CONTEXT: An audit of antibiotic prescribing patterns is an important indicator of the quality and standard of clinical practice.

AIMS:

To study the (1) antibiotic prescription and consumption patterns at admission into the intensive care unit (ICU); (2) average costs of antibiotics prescribed; and (3) correlation of antibiotic usage and the costs incurred with age, severity of illness, and diagnosis.

SETTINGS AND DESIGN: A 13-bedded tertiary level ICU. A prospective, observational audit.

MATERIALS AND METHODS: Two hundred consecutive prescriptions on patients admitted to the ICU from August to October, 2008, were audited. The total number of drugs and antibiotics, the class, dose, route, and cost of antibiotics were noted and the Defined Daily Dose/100 bed-days (DDD/100 bed-days) of the 10 most frequently prescribed antibiotics were calculated. Statistical analysis used: Univariate analysis was performed using Epi Info software (version 8.0).

RESULTS: A total of 1246 drugs and 418 antibiotics were prescribed in the 200 patients studied, that is, an average of 6.23 (\pm SD 2.73) drugs/prescription and 2.09 (\pm SD 1.27) antibiotics/prescription. Antibiotics were prescribed on 190 patients (95%) at admission. There was a significant correlation between the number of patients prescribed three or more antibiotics and mortality rates (53% nonsurvivors vs. 33.5% survivors ($P = 0.015$)). The average cost of the antibiotics was Rupees 1995.08 (\pm SD 2099.99) per patient and antibiotics expenditure accounted for 73.2% of the total drug costs.

CONCLUSIONS:

Antibiotics are commonly prescribed to most ICU patients at admission and contribute significantly to the total drug costs. Antibiotic restriction policies and a multidisciplinary effort to reduce usage are urgently required.