

# 24th FAPA CONGRESS 2012

Bali, 13 - 16 September 2012

Bali Nusa Dua Convention Center, Indonesia

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# ABSTRACT BOOK



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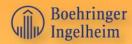
















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# "CULTURE & MEDICINE" Bringing Traditional Medicine to Modern Life

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# A 3-YEAR ECOLOGICAL STUDY OF ANTIBIOTIC USE AND ANBIOTIC RESISTANCE AT A PRIVATE HOSPITAL IN INDONESIA, 2008-2010

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#### BACKGROUND:

Antibiotic use is one of the main risk factors for the development of antibiotic resistance. Several studies have investigated the relationship between antibiotic use and antibiotic resistance, but the results of these studies have been inconsistent. OBJECTIVE:

We investigated the relationship between antibiotic use and antibiotic resistance at a private hospital in Surabaya, Indonesia, from 2008-2010.

METHOD:

This was an ecological study based on inpatient retrospective data from private hospital in Surabaya 2008-2010. We examined the percentage of resistant bacterial isolates (using WHONET software) as the dependent variable and the amount of antibiotic use (expressed as defined daily doses (DDDs) per 100 patient days) as the independent variable. Correlation and linear regression analyses were used to analyse antibiotic use and antibiotic resistance among six most commonly isolated bacteria: Escherichia coli, Klebsiella pneumoniae ss. pneumoniae, Pseudomonas aeruginosa, Acinetobacter baumannii, Staphylococcus epidermidis and Streptococcus non-haemolytic (gamma).

#### RESULT:

Total antibiotic use was 80.9 DDD per 100 patient days. The most commonly used antibiotics were ceftriaxone (10.7 DDD per 100 patient days), levofloxacin (8.6 DDD per 100 patient days) and amoxicillin (8.3 DDD per 100 patient days). Correlation between antibiotic use and antibiotic resistance was weak and not statistically significant for the six bacteria (R = -0.04-0.2; p = 0.4-0.9). The small  $R^2$  (0.002–0.04) indicated much stronger factor(s)other than the use of antibiotics that affected antibiotic resistance.

#### CONCLUSION:

This ecological study found no significant relationship between antibiotic use and antibiotic resistance. There needs to be further research to analyse antibiotic use, antibiotic resistance and other factors affecting antibiotic resistance.

**Key Words**: antibiotic use, antibiotic resistance, ecological study, Indonesia.