

***IN VITRO* ANTI BACTERIAL COMPARISON OF CEFADROXIL CAPSULES**

ABSTRACT

Background: Cefadroxil prices dropped up to 41% by sytem lembaga kebijakan pengadaan barang/jasa pemerintah in 2018 compared to 2012 prices prompted Pharmaceutical Wholesalers to made savings especially in drugs delivery to buyers. Purchasing drugs directly to the factory using the e-purchasing system, pushed the factory to appoints a Pharmaceutical Wholesaler to carry out a Purchase Contract. Significant decrease in prices triggers concern about the quality of the drugs purchased. The use of antibiotics including cefadroxil is still not rational, especially in upper respiratory tract infections (otitis media) and diarrhea.

Methods: Microbiological assay, potency ratio and minimum inhibitory concentration (MIC) were carried out for six 500 mg cefadroxil capsules, coded product A to F. All products were the product that used for patients in primary health care center (PHCC) and general hospital of Bangka Tengah district. Tests are carried out by methods available in Indonesian Pharmacopoeia (FI V). *Escherichia coli* ATCC 25922 and *Staphylococcus aureus* ATCC 25923 were used as test bacteria.

Results: The potency ratio of tested product (A to F) in *Escherichia coli* were 95.9%, 99.1%, 100.0%,96.7%, 96.2% and 98.2% respectively. While in *Staphylococcus aureus* were as follows 95.6%, 99.3%, 103.8%, 97.1%, 95.7% and 100.4%. All products meet the requirement of FI V and USP 41 (to be no less than 90% and not more than 120%). As confirmation, the MIC of cefadroxil for *Escherichia coli* obtained values ≤ 8 ppm and *Staphylococcus aureus* ≤ 2 ppm.

Conclusion: the potency ratio and MIC of the six product of cefadroxil capsules 500 mg fulfills the acceptance criteria, thus the quality are comparable. The potential is more than 90% and less than 120%

Key words: cefadroxil capsule, microbiology assay, e-purchasing