

Quantitative Evaluation of Diarrhea Use of Antibiotics in Adult Patients with Comparison of the ATC / DDD Method and PDD in the District Health Office of Sampang Regency

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Abstract

Improper use of antibiotics may lead to increased side effects and antibiotic toxicity, cost wastage, and inadequate clinical benefit in the prevention and treatment of infectious diseases, as well as bacterial resistance to drugs. The selection and use of appropriate and rational antibiotic therapy will determine the success of treatment to avoid the occurrence of resistance.

The purpose of this study was to evaluate the use of antibiotics in diarrhea and to support the government program that the use of antibiotics for diarrheal non specific diseases is not more than 8%. The method used in this research is descriptive observation with retrospective data collection in the period January-September 2019. The data used is the use of antibiotics in adult patients with diarrhea in the Puskesmas in the Sampang district. Evaluation of the use of these antibiotics using the ATC / DDD (*Anatomical Therapeutic Chemical/Defined Daily Dose*), PDD (*Prescribed Daily Dose*), PDD and DDD ratio and DU 90% (*Drug Utilization 90%*). The ATC / DDD method is a classification system that classifies drugs based on their chemical structure, *pharmacology* and *therapeutic* purposes. The PDD method is defined as the average dose determined according to a representative sample. The 90% DU method is the most widely used drug therapeutic group. The PDD and DDD ratio is a comparison between the average PDD and DDD determined by WHO.

The results found that 698 populations of diarrhea patients and 252 were using antibiotics. From the data on the percentage of antibiotic use, there is one Puskesmas that meets the national standard for rational antibiotic use (POR). Based on the ATC / DDD method, it showed that the antibiotic that was widely used was *Oral Cotrimoxazole* at 13.91 DDD / 100 bed-days. Based on the DU 90% method, there are six of the eight antibiotics included in the 90% DU segment, including *Oral Cotrimoxazole*, *Oral Metronidazole*, *Parenteral Ceftriaxone*, *Oral Tetracycline*, *Oral Ciprofloxacin* and *Parenteral Cefotaxime*. Based on the PDD method, there is one antibiotic that meets WHO standards, namely *parenteral Ceftriaxone*, while seven antibiotics did not meet WHO standards. There is a difference between the PDD and DDD values. Policies are needed to control the use of antibiotics to reduce antibiotic resistance in Puskesmas.

Keywords : Antibiotics, ATC/DDD/100 *bed-days*, Diarrhea, DU 90%, PDD, Ratio PDD : DDD