

## ABSTRACT

### **Drug Utilization Study of Antihypertensive Agents in Elderly Patients with Hypertension and Diabetes Mellitus (Study at the Geriatric Ambulatory Care Dr. Soetomo Teaching Hospital Surabaya)**

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Hypertension and diabetes mellitus are major diseases in elderly patients. Blood pressure in hypertension and diabetes mellitus should be controlled to decrease the risk of microvascular and macrovascular complications. The high prevalence of multiple drug uses combined with age-related changes in pharmacokinetics and pharmacodynamics contribute to the increase of drug related problems in the elderly patients with hypertension and diabetes mellitus.

This study aimed to assess drug utilization and to identify the actual or potential DRP from the use of antihypertensive drugs in elderly patients with hypertension and diabetes mellitus at the Geriatric Ambulatory Care Dr. Soetomo Teaching Hospital Surabaya. This study was an observational study with cross-sectional method and conducted from March to May 2015. There were 80 patients eligible to the study.

The results showed that per oral dosage and frequency of antihypertensive agents were in accordance with the literature. There were five classes of antihypertensive agents used including 69% ARB (valsartan 1x80 mg-160 mg, telmisartan 1x80 mg, candesartan 1x8 mg-16 mg and irbesartan 1x150 mg-300 mg), 56% CCB (amlodipine 1x5 mg-10 mg, nifedipine OROS 1x30 mg and diltiazem SR 1x100 mg-200 mg), 27% diuretic (furosemide 1x20 mg-40 mg and spironolactone 1x25 mg), 26%  $\beta$ -blocker (bisoprolol 1x2,5 mg-5 mg) and 9% ACEI (lisinopril 1x5 mg-10 mg, ramipril 1x5 mg and captopril 3x25 mg). The blood pressure target <140/90 mmHg was achieved in 64% patients. The DRPs identified in this study were actual side effects (10%) and potential drug interactions (41%). One patient might experience more than one DRPs. Antihypertensive drugs usage in elderly patients require a careful consideration in achieving optimal outcomes.

Keyword: drug utilization study, elderly, antihypertensive drugs, hypertension, diabetes mellitus