

ABSTRACT

**Drug Utilization Study of Antihypertensive Agents in Type 2 Diabetes Mellitus Outpatient  
(Study Was Conducted In Universitas Airlangga Hospital Surabaya)**

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Diabetes mellitus (DM) is a group of metabolic disorders that can be characterized by decreased insulin secretion, insulin resistance which can cause hyperglycemia. In patients with type 2 diabetic, hypertension (HT) is diagnosed 70%. DM and HT are comorbid disease that induce each other and frequently occur together. Insulin resistance is thought to be the main cause of HT in T2DM patients associated with activation of Angiotensin Renin Aldosterone System (RAAS). This study aimed to examine the pattern of antihypertensive use associated with clinical data and laboratory data and to identify drug-related-problems (DRP) occurred in type 2 diabetic outpatients at Universitas Airlangga Hospital. The study was conducted retrospectively during period 2<sup>nd</sup> January-31<sup>st</sup> December 2018. The results showed that 125 patients fulfilled the inclusion criteria. Seventy two patients (58%) were female and 53 patients (42%) were male with most patients aged in 45-54 years old (45%). The comorbidities that often accompany DM and HT were dyslipidemia in 17 patients (14%). The most widely used antihypertensive agent was Nifedipine 30 mg once daily (62%). Nifedipin Oros is a dihydropyridine calcium channel blocker, have a vasculoselective trait that could reduce the peripheral resistance without lowering the heart function. The most use antihypertensive combination in this study was a two-drug combination (98%) and the most use antihypertensive regimen were from CCB and ARB drug class. CCB and ARB combination is a strong antihypertensive and cardioprotective agent. The drug-related-problems (DRP) identified were actual side effects (edema) and potential drug interactions (ARB between Sulfonilurea). It can be concluded that Nifedipin was the most use drug and CCB-ARB were the most use combination in type 2 diabetic outpatients. In, addition, the use of antihypertensive agents was accordance with the clinical guidelines.

**Keyword:** diabetes mellitus, hypertension, drug utilization study, Universitas Airlangga Hospital