

## **ABSTRACT**

### **POTENTIAL DRUG INTERACTIONS IN HYPERTENSION PRESCRIPTIONS AT K-24 RUNGKUT MADYA PHARMACY, JANUARY - JULY 2022**

**Rizka Tuhfatus Salma**

Hypertension is a leading global cause of death, associated with complications such as coronary heart disease, heart attack, stroke, and kidney failure. Treatment aims to reduce morbidity and mortality through lifestyle modifications and, if necessary, medication therapy. This study conducted at K-24 Rungkut Madya Pharmacy in Surabaya aimed to identify potential drug interactions in antihypertensive prescriptions. Using Medscape and drugs.com, data were collected retrospectively from January to July 2022.

Out of 77 antihypertensive prescriptions, 53 had potential drug interactions, indicating a higher prevalence of interactions. As the number of medications taken increases, the likelihood of drug interactions also rises. These interactions can diminish therapeutic effects, increase toxicity, or cause unexpected pharmacological effects. Based on clinical significance, interactions are categorized as major, moderate, or minor.

The study identified a moderate interaction between atorvastatin and amlodipine. This pharmacokinetic interaction increases plasma concentration of atorvastatin, potentially leading to musculoskeletal toxicity. Another major interaction was found between candesartan and spironolactone, with a pharmacodynamic effect. Concurrent use of these drugs elevates the risk of hyperkalemia, which can lead to kidney failure, irregular heart rhythm, and cardiac arrest. Moderate interactions were observed between amlodipine and aspirin, amlodipine and bisoprolol, as well as valsartan and aspirin, resulting in increased gastrointestinal bleeding, elevated blood pressure, and impaired kidney function.

To ensure the safety of patients using potentially interacting drug combinations, dose adjustments or closer monitoring by physicians are recommended. Side effects like headaches, dizziness, and changes in heart rate or pulse should also be monitored. In conclusion, this study identified potential drug interactions in antihypertensive prescriptions at K-24 Rungkut Madya Pharmacy in Surabaya.

**Keywords:** Hypertension, drug interaction, prescription