

## ABSTRACT

### **Drug Utilization Study of Insulin in Patients with Type 2 Diabetes (Studied in Outpatient Installation Airlangga Hospital Surabaya)**

**Background:** Diabetes Melitus (DM) is a group of metabolic disorders characterized by hyperglycemia resulting from defects in insulin action and associated with complications microvascular or macrovascular, therefore intensive therapy is important. Insulin is an antidiabetic drug that indicated for type 2 diabetes mellitus, who failed to achieve glycemic control with OAD therapy. The early initiation of insulin has been shown to improve glycemic control.

**Objective:** The purposes of this study were examine utilization of insulin in patients with type 2 diabetes melitus and identify drug related problems (DRP) in patients with insulin therapy.

**Method:** Data was collected crosssectionally with purposive sampling method in the period March 2016 until May 2016 in Outpatient Installation Airlangga Hospital Surabaya. The inclusion criteria were patient type 2 diabetes mellitus using insulin therapy or in combination insulin-OAD therapy and the patients were willing to follow this study.

**Results:** The results of observational study on 240 patients showed insulin therapy that used in this study were 30.83% patients used monotherapy insulin or basal bolus therapy and 69.17% patients used combination of insulin-OAD. These insulins were long acting insulin (72.50%) consist of glargine and detemir ; rapid acting insulin (41.67%) consist of aspart and glulisine; premixed insulin (25.83%) consist of 70/30 protamine aspart/aspart and 75/25 protamine lispro/lispro. Dose of insulin therapy in type 2 diabetes mellitus are very diverse and appropriated with individual patient's condition. In this study, only 20.82% patients achieve targeted blood glucose. There were any drug related problems identified, such as adverse drug reaction (14.59%), and drug interaction between insulin-aspirin (16.25%), insulin-golongan fibrat (7.92%), insulin- $\beta$ bloker (5.83%), and insulin-ACEI (4.58%).

**Conclusion:** The antidiabetic therapy which applied to the diabetes melitus patients were very complicated and individual. Some of patients's blood glucose were still uncontrolled and several drug related problems were found in an antidiabetic therapy.

**Keywords:** antidiabetic therapy, insulin therapy, type 2 diabetes melitus, drug related problems.