

## ABSTRACT

### **Differences Chromium and Zinc Levels in Patients with Type 2 Diabetes and Non-Diabetes in Surabaya Hajj General Hospital**

Type 2 diabetes is caused by insulin resistance along with insulin deficiency, occurs in adulthood. Insulin is a hormone produced by the beta cells of the pancreas with one of the main functions to facilitate the absorption of glucose into the cells. Cells can be functionally impaired if an interruption in production or insulin resistance. Mikromineral which lead to the occurrence of diabetes is chromium and zinc. Chromium improve glucose metabolism as a cofactor, while zinc is an essential structural component of insulin biosynthesis in cells - pancreatic  $\beta$  as the production of insulin. Observational study with cross-sectional design used to determine differences in the levels of chromium and zinc in the blood of patients with type 2 diabetes and non-diabetic. The population of this study were all patients who visit the Poly Medicine in Surabaya Hajj General Hospital . The sample consisted of 30 patients consisted of 15 people with type 2 diabetes and 15 non-diabetic people who meet the inclusion and exclusion criteria. Statistical analysis showed that there was no significant difference in the levels of chromium in the blood samples between groups of type 2 diabetes and non-diabetic ( $p = 0.201$ ). Statistical test results also showed no significant difference in the level of zinc between the groups of type 2 diabetic and non-diabetic. ( $p = 0.431$ ). Conclusion: There is no significant difference in blood levels of chromium and zinc among patients with type 2 diabetes and non-diabetes in Poly Medicine in Surabaya Hajj General Hospital.

Key word: type 2 diabetes, blood chromium level , blood zinc level