

## **Abstract**

### **The Effect of Giving Trans Fatty Acid (FTA) to Insulin Resistance on Wistar Strain Rat**

Insulin Resistance in the metabolic level is as insufficient insulin function of skeletal muscle, liver and adipocytes. This case inhibited the normal role of Insulin in which caused increasing muscle cell glucose uptake, glycogen synthesis, and hepatic glucose production discontinuance. The purpose of this research was to analyze the differences in fasting glucose, fasting insulin and HOMA- IR index between the control and experimental group (given by margarine and palm oil with repeatedly heating). This study was true experimental research by using Post Test Only Control Group Design Research. The sample research used 25 male wistar strain rats. The data collection was obtained from the result of the laboratory examination of fasting blood glucose and fasting blood insulin to determine HOMA-IR index. The Research result was tested statistically by using Manova test at 95% confidence level in SPSS program 16.0 version. The result showed no difference between mean fasting glucose blood (p value = 0.000), no difference between mean fasting Insulin level and there was significance difference in HOMA-IR index which determined Insulin Resistance (p value = 0.591) on Wistar strain male rats between the control and experimental group. Advice for public based on WHO recommendation is that TFA consumption recommended < 1 % of the total energy per day should be implemented in order to not causing the adverse for health.

**Key Words : Insulin Resistance, TFA, HOMA IR, Rat**