Zuhria Ismawanti. S531708052. 2019. **Effect of Red Guava (*Psidium guajava L.*) and Papaya (*Carica papaya*) on Blood Glucose and Total Cholesterol Levels Type 2 Diabetes Mellitus Patients**. Thesis. Advisor I: Prof. Dr. dr. JB. Suparyatmo Sp.PK(K). Advisor II: Dr. Budiyanti Wiboworini, dr., M.Kes. Sp.GK. Nutrition Science Study Program of Postgraduate Universitas Sebelas Maret, Surakarta.

ABSTRACT

Background: Diabetes mellitus (DM) is a metabolic disease with clinical manifestations of hyperglycemia that occurs due to abnormal insulin secretion, insulin action or both. Hyperglycemia in DM causes an increase in free radicals. Antioxidants are expected to suppress lipid peroxidase, so that lipotoxic can be prevented and cell damage due to hyperglycemia can be avoided. This study aimed to analyze the effect of giving red guava fruit (*Psidium guajava L.*) and papaya (*Carica papaya*) to blood glucose and total cholesterol levels in type 2 diabetes mellitus patients.

Method: Type of research is quasi experimental with pre post-test with control group design. A total of 52 subjects were divided by simple random sampling into 4 groups: the group giving red guava 282.2 grams (P1), giving papaya 302.4 grams (P2), giving red guava and papaya 292.3 grams (P3) and the control group given mineral water (K). This study was conducted for 14 and 28 days. Data analysis using One Way Anova test followed by Post Hoc, and multivariate analysis using multiple logistic regression analysis.

Results: There was a significant decrease in blood glucose (GDP and GD2JPP) and total cholesterol in each group on the 14th and 28th days significantly ($p < 0.05$) and in the P3 group more a decrease in blood glucose and total cholesterol levels compared with groups K, P1 and P2. On the 28th day there was a decrease in blood glucose levels and higher total cholesterol compared to the 14th day. There were significant differences in the decrease in blood glucose levels and total cholesterol between groups P1 with K and P2 with K ($p < 0.05$). While groups P1 and P2 did not show significant differences ($p > 0.05$).

Conclusion: Giving red guava and papaya can reduce blood glucose and total cholesterol levels of type 2 diabetes mellitus patients.

Keywords: *Psidium guajava L*, *Carica papaya*, Blood Glucose, Total Cholesterol