

ABSTRACT

Riwik Narhistu. 24020120120018. Histomorphometry of the Ileum of White Rats (*Rattus norvegicus*) Diabetes Mellitus that Inclusion Sungkai Plant Soaking Water (*Albertisia papuana* Becc). Supervised by Kasiyati and Erma Prihastanti.

Diabetes mellitus (DM) is a chronic disease characterized by blood glucose levels exceeding normal. One of the plants that the potential as an antidiabetic is the sungkai plant which is used by the Dayak people in overcoming DM disease. The study aimed to analyze the administration of sungkai plant soaking water (*Albertisia papuana* Becc) on ileal histomorphometry of diabetes mellitus rats. This study used 25 white rats which were divided into 5 treatment group and 5 replications each. The treatments consisted of K- (control), K+ (DM), P1 (DM + leaf soaking), P2 (DM + stem soaking), and P3 (DM + root soaking). This research design used a Completely Randomized Design (CRD). The white rats were acclimated 14 days and then treated for 30 days. The parameters of this study consisted of intestine relatif weight, intestine length, ileal histomorphometry (lumen diameter, villi length, villi width, serosa layer thickness, muscularis layer thickness, mucosa layer thickness, and submukosa layer thickness). The data was tested for normality and homogeneity, showed normal and homogeneous results, then continued with the ANOVA test with a significant level of 5 % ($\alpha=0.05$) and futher test using the Duncan test. The result showed that sungkai plant has an effect on ileum histomorphometry of DM rats after treatment. Significant data were found in ileal length, lumen diameter, villi length, submucosa layer thickenss, and mukosa layer thickness. The intestine relatif weight, intestine length, villi width, serosa layer thickness, and muscularis layer thickness showed not significant differ ($P>0.05$). The conclusion of this study was the inclusion sungkai plant soaking water could improve the histological structure of the ileal damage by DM.

Key word: *mucosa layer, muscularis layer, submucosa layer, lumen, ileal villi*