

ABSTRACT

Determination of Blood Glucose Level on Administration of *Porang* (*Amorphophallus oncophyllus*) Powder and *Konjac* (*Amorphophallus konjac*) Powder Standardized in their Glucomannan Content to Rats (*Rattus norvegicus*) Induced with Alloxan Monohydrate

Winie Farisah

The aim of this research is to know the hypoglycemic effects of the *porang* powder (*Amorphophallus oncophyllus*) and *Konjac* powder (*Amorphophallus konjac*), both standardized in their glucomannan content. The glucomannan levels in *porang* and *konjac* powder were $52,33 \pm 0,74\%$ (w/w) and $61,24 \pm 0,61\%$ (w/w), respectively. Glucomannan contained in *porang* tuber functions as water soluble hemicellulose fiber which has low calories.

The experimental animals used in this study were white rats (*Rattus norvegicus*) induced with alloxan monohydrate. Blood samples were taken from the tail end of male white rat (*Rattus norvegicus*) aged 2-2,5 months with the weight of 100-250 grams. The treatment group was divided into 8 groups, which included negative control group (CMC Na 0.3%), positive control group (glibenclamide 0,455 mg / kg white rat), *porang* powder dosage group I; II; III (with the dosage of 59,5 mg / kg white rat; 115,5 mg / kg white rat; 175 mg / g white rat BB calculated as glucomannan, respectively), and *konjac* powder dosage group I; II; III (with the dosage of 59,5 mg / kg white rat, dose 115,5 mg / kg white rat, dose 175 mg / kg white rat calculated as glucomannan, respectively). The treatment was done every day for 21 days with a measurement of blood sugar levels performed every 3 days and daily body weight performed every day. Prior to treatment, white rats had been subjected to adaptation for one week and abstained from food for 18 hours. The data obtained were analyzed using One Way ANOVA with significance level: by ($p < 0,01$; $p < 0,05$).

The results obtained showed that the *konjac* powder dosage group III (175 mg / kg body weight / day calculated as glucomannan) is the most effective dose to lower blood sugar levels.

Keywords: Glucomannan, *Amorphophallus oncophyllus*, *Amorphophallus konjac*, Alloxan monohydrate, Blood glucose level, Rats, Diabetes mellitus