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## ABSTRACT

**Title of Abstract** : Effect of Arrowroot Cookies with Porang (*Amorphophallus Oncophyllus*) Glucomannan Addition on Atherogenic Index of Plasma In Type 2 Diabetes

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**Background** : Type 2 diabetes (T2D) patients are at risk of developing cardiovascular diseases (CVD). Arrowroot cookies with porang glucomannan which are rich in dietary fiber may be able to reduce CVD risk in T2D patients.

**Objective** : This study aimed to evaluate the effect of cookies consumption for 8 weeks on the atherogenic index of plasma (AIP) of T2D patients.

**Research Methods/ Implementation Methods** : As many as 24 T2D subjects were recruited from primary health centers in Yogyakarta. The control group (n=12) was given nutrition education, and the intervention group (n=12) was given nutrition education and 5 pieces of cookies (65 grams) as daily snacks for 8 weeks. AIP [ $\log(\text{TG}/\text{HDL-C})$ ], anthropometry, and food intake were measured before (week 0) and after (weeks 8) the study.

**Results** : There was a decrease in AIP in the intervention group from 0.189 to 0.164 (medium-risk of CVD), although it wasn't significant ( $p>0.05$ ). On the contrary, the AIP level in the control group increased from 0.075 (low-risk of CVD) to 0.111 (medium-risk of CVD). The AIP changes between groups were not significantly different ( $p>0.05$ ). There were no changes in anthropometry measures in both groups after the study ( $p>0.05$ ). We found an increase in dietary fiber intake in both groups ( $p<0.05$ ), however, it was not significantly different between groups ( $p>0.05$ ).

**Conclusion/Lesson Learned** : Consumption of 65g arrowroot cookies with porang glucomannan addition for 8 weeks did not significantly affect the AIP in T2D patients. However, it could maintain the AIP level in the intervention group in the medium-risk category and may serve as safe snacks for T2D patients.

**Keyword** : Type 2 diabetes; dietary fiber; arrowroot cookies; atherogenic index of plasma