



## GENETIC ASSOCIATION STUDY WITH OBESITY, HYPERTENSION, T2DM IN FIRST GENERATION OF T2DM OF LEMBAK ETHNICITY IN BENGKULU, INDONESIA

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### ABSTRACT

Obesity, hypertension, and T2DM have been known as partly heritable, while the number of genetic studies on those conditions among Lembak ethnicity was limited. The present study aims to investigate the effects of FTO, MTHFR, and KCNJ11 polymorphisms on the susceptibility of obesity, hypertension, and T2DM in the Lembak Ethnicity of Bengkulu, Indonesia. This case-control study included 30 first-generation (F1) DM patients and 30 F1 non-DM (healthy controls) from the Lembak Ethnicity of Bengkulu. The biochemical profile and anthropometric parameters of all participants were measured. The genotyping of FTO, MTHFR, and KCNJ11 gene polymorphisms was carried out by using the PCR-RFLP. The effects of genetic variations on obesity, T2DM, and hypertension risk were evaluated in this study. In this F1 T2DM of Lembak Ethnicity, there were significant differences in age, BMI, waist circumference, and SBP between the two groups ( $p < 0.05$ ). However, there is no SNP was found to be associated with obesity, hypertension, and T2DM. Our study suggested that some of the SNPs were not detected in younger people. Due to the limitations of our study, further investigations on these associations, specifically in the elderly population are guaranteed.

### BIOGRAPHY (upto 200 words)

Diah Ayu Aguspa Dita has completed her master's degree in biomedical sciences from University of Indonesia, Indonesia. He is the head of Medical Physiology Department of the Faculty of Medicine and Health Sciences, University of Bengkulu, Indonesia. She and her team are interested in genetic and molecular studies in degenerative, specifically T2DM, and neurodegenerative diseases, specifically Alzheimer's disease. She has been serving as a reviewer of the Institutional Review Board at University of Bengkulu.

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