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### High-Throughput Screening by Real Time qPCR Showed Indonesian Local Yam Supplemented in Obese Subject Increased *Bifidobacterium spp.* and *Clostridium coccoides-Eubacterium rectale* Groups of Gut Microbiome

Abrory Agus Cahya Pramana\*, Dianandha Septiana Rubi and Sunarti  
University Gadjah Mada, Indonesia

Obesity, non-communicable disease, is the fifth global health problem and could lead to death as a higher risk. The shifting on diet pattern, unbalancing in energy consumption and shifting physical activities have made this problem increased in the prevalence and is a concern in health problem completion. The problem in obesity has estimated to be a major death by 2025. The gut microbiome has known to affect the immune, gastrointestinal, nervous and cardiovascular system and even they could alter the host metabolism and triggered metabolic syndrome, like obesity. The two major phyla of the gut microbiome, Bacteroidetes and Firmicutes, have known to alter in obese individuals compared with the healthy ones and the composition would change during the different diet pattern given. Indonesian local yam identified to contain high insoluble and soluble fibre that would be fermented by the microbiome in the gut host and be a specific nutrient into gut microbiome. Therefore, we would like to compare the gut microbiome composition in obese individuals supplemented by Indonesia local yam as a tested snack with obese individuals supplemented by wheat flour as a standard snack. High-throughput screening method by real-time qPCR was used to observe the gut microbiome composition, including Bacteroidetes and Firmicutes phyla, *Bacteroidetes-Prevotella-Porphyromonas* groups, *C. coccoides-E. rectale* groups, *Lactobacillus spp.* and *Bifidobacterium spp.* Cq values further were normalized by All Bacteria as the reference. We compared  $\Delta Cq$  before and after the intervention and using paired sample t-test to analyse the significant difference. Our result found that obese individual supplemented by tested snack, composing by Indonesia local yam showed increasing significantly in *Bifidobacterium spp.* and *Clostridium coccoides-Eubacterium rectale* groups ( $p < 0.05$ ). Finally, we suspect that Indonesian local yam could have the specific prebiotic function to modulate specific gut microbiome related to improving gut microbiota composition in obese individuals.

**Keywords:** Obese, Indonesian Local Yam, Gut Microbiome, *Bifidobacterium spp.*, *Clostridium coccoides-Eubacterium rectale* groups

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