

THE EFFECT OF EXTRACT FROM PLANT OF THE LABIATAE FAMILY ON THE METABOLIC REGULATION IN DIET-INDUCED C57BL/6J OBESE MICE

Ji Won Kim¹, Ji-Young Choi², Da youn Lee¹, Eun Jeong Do¹,
Young Mi Lee¹, Su-Jung Cho¹, and Myung-Sook Choi¹

¹Kyungpook National University, Daegu, Republic of Korea

²Gachon University, Republic of Korea

P*hlomis umbrosa* extract (PUE) is an extract from plant of the Labiatae family. The anti-obesity effect of PUE has not yet been determined. Therefore, the aim of the current study was to elucidate the effects of PUE on obesity and metabolic syndrome in diet-induced obese (DIO) mice. C57BL/6J mice were fed a normal diet, high-fat (60% energy as fat, (HFD)), or high-fat + 1% (w/w) PUE diet for 12 weeks. The HFD group had significantly higher body weight than the ND group, while that of PUE group was significantly lower than in the HFD group, after 12 weeks. The food efficiency ratio (FER) was significantly lower in the PUE group than in the HFD group. Fasting blood glucose was significantly increased in the HFD group compared to the ND group, while significantly decreased in the PUE group compared with the HFD group. The plasma total-cholesterol level was significantly lower in the PUE group than in the HFD group. Moreover, PUE markedly reduced the liver weight, and tissue morphology analysis also showed decreased accumulation of hepatic lipid droplets in the PUE group when compared with HFD-fed mice. These results suggest that PUE treatment ameliorated hypercholesterolemia and hepatic steatosis in DIO mice, with a simultaneous reduction in body weight gain. Therefore, our findings provide some significant insights into the effects of PUE for the prevention of metabolic syndrome.

Biography

Ji Won Kim has completed Bachelor's degree from Deagu Haany University, Department of Food Science and Nutrition, Deagu, Korea. She is currently enrolled for Master's degree in Food and Nutrition, Kyungpook National University.

mschoi@knu.ac.kr