

Palm Based High-Oleic Cooking Oil and Extra Virgin Olive Oil Diets do not Affect Markers of Insulin Resistance and Glucose Tolerance in Overweight Adults

Background: High oleic blended cooking oil (HOBO) is an oil product of blended palm olein and canola oil with monounsaturated oleic acid as dominant fatty acid. This blend has increased the amount of oleic acid to more than 50%, with cold stability which is suitable for cooking usage in temperate countries. However, the effects of HOBO diet in human nutrition have not been studied extensively. Objective: We aimed to compare the effects of HOBO vs. oleic acid-rich extra virgin olive oil (OO) diets on markers of insulin resistance and glucose tolerance in overweight subjects. Design: A single-blind, randomized crossover study with 3 dietary interventions of 6-wk each (3-wk washout in between) was conducted in 32 overweight subjects. The 3 test fats were HOBO, OO and refined, bleached and deodorized coconut oil CO incorporated at two-thirds of 30% kcal fat containing 55% kcal from carbohydrates and 15% kcal from protein. Results: No significant differences ($P>0.05$) were observed in the effects of the 3 diets on markers of insulin resistance [glucose, c-peptide, insulin, fructosamine, Haemoglobin A1c (HbA1c), homeostasis model assessment of insulin resistance (HOMA-IR), homeostasis model assessment of beta cell function index (HOMA- β), and quantitative insulin sensitivity check index (QUICKI)] and glucose tolerance. Conclusions: HOBO diet did not alter markers of insulin resistance and glucose tolerance in overweight Malaysian adults compared with that of OO and CO diets.