Abstract

iMedPub Journals
www.imedpub.com

Journal of Clinical Nutrition & Dietetics

2021
Vol.7 No.S5

The Effects Of Different Dietary Oils On Gut-Derived Short Chain Fatty Acids Profiles In Healthy Malaysian Adults

Yap, Sia-Yen*

Nutrition Unit, Product Development and Advisory Services Division, Malaysian Palm Oil Board, Selangor, Malaysia.

Abstract

Diets influence the composition of gut microbial-derived short chain fatty acids (SCFAs). A high linear chain SCFAs contents in the Mediterranean and vegetarian diets have demonstrated health benefits. However, branched-chain SCFAs produced in the high fat diet are detrimental to colon health. The information on dietary fats on SCFAs in healthy adults following a regular Malaysian diet is lacking. We investigated the changes of SCFAs in adults (n=32) fed on three different dietary fats (A, B, and C) for 16 weeks. Diet A contained high saturated fats (SFA) but low in unsaturated fat (UFA), while Diet B has similar contents of SFA and UFA, and Diet C has low SFA but high UFA. SCFAs were extracted using mechanical and chemical reactions and analysed using gas chromatography-mass spectrometry (GCMS). After 16 weeks, three predominating linear chains SCFAs: acetate acid (35%), butanoic (23%), propionic acids (15%), and a lower concentration of branched-chain SCFAs are detected. Diets B and C increase butyric acid, which is particularly important for maintaining colonic cell integrity. Only diet B decreases the percentage of branched-chain SCFAs. These preliminary results may shed some light on types of dietary oil intake and potential SCFAs' health effects in healthy Malaysians.

Keywords: short chain fatty acids, dietary fats, linear chain SCFAs, branched-chain SCFAs

Biography

Yap Sia-Yen is working as a Researcher in Malaysian Palm Oil Board

Email:syyap@mpob.gov.my