

## Quantitative Analysis of fatty acid profile in CVD high-risk Thais

Supantitra Chanprasert\*, Yada Tansiri\*, Patteera Wongchinda\*, Suphan Soogarun\* and Winai Dahlan\*\*

\*Department of Clinical Microscopy, \*\* Lipid and Fat Sciences Research Center, Faculty of Allied Health Sciences, Chulalongkorn University, Bangkok, THAILAND

To date, cardiovascular disease (CVD) is the first-rank health problem of Thais and considerably increases in incidence. This is owing to habitual diet which consists of higher amount of fat. Most fatty acids in blood circulation are obtained from consumption. In the present study, we aimed to analyze fatty acid composition in the serum that can reflect consumption behaviors and risk of cardiovascular disease. Sixty customers with ages over 45 years old of Health Sciences Operation Unit were selected and divided into 2 groups equally, normal and high cholesterol-level groups. Fatty acids in the serum were extracted and determined by utilizing gas-liquid chromatography. We found that the high cholesterol-level group had SFA of  $3.23 \pm 0.38$  g/l, PUFA of  $4.20 \pm 0.80$  g/l, and omega-6 PUFA of  $1.53 \pm 0.29$  g/l which were significantly greater than the normal cholesterol group. High SFA in circulation especially palmitic acid increases the risk of CVD and high n-6 PUFA affects thrombogenic activities and ultimately leads to the CVD. In conclusion, analysis of fatty acid composition in the serum can indicate consumption behaviors and also predict the risk of cardiovascular disease.

**Keywords**—cardiovascular disease (CVD); saturated fatty acid (SFA); omega-6 PUFA (n-6 PUFA)