

***Trans* Fatty Acids and Conjugated Linoleic Acids in Milk, Yogurt and Cultured Milk Drink**

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Abstract

Biohydrogenation of dietary unsaturated fatty acids by the rumen microbes to saturated fatty acids yields intermediate products comprising of *trans* fatty acid (TFA) and conjugated linoleic acids (CLA). *Trans* fatty acids have been shown to be detrimental to human health whereas CLA has positive effects on human health. In view of the potential health effects of these fatty acids, the aims of this study were to determine the TFA and CLA levels of selected dairy products (milk, yogurt and cultured milk drink) in locally produced and imported dairy products accessible to the general Malaysian population. The subsequent objective is then to estimate the daily intake of TFA and CLA from these dairy products among local population. Fresh milk samples were obtained from the UPM dairy unit located within a 3 km distance from the analytical laboratory and commercial samples were purchased from local supermarkets. The samples consist of 21 milk samples, of which 12 are locally produced; 42 yoghurt samples, of which 18 are local products and 11 cultured milk samples of which 5 are local products. All samples were then subjected to total fatty acids extraction and their fatty acid composition determined using gas liquid chromatography. Results showed that local dairy products have less polyunsaturated fatty acids compared to imported products ($P < 0.05$). However, among locally produced dairy products, yogurt contained the highest levels of TFA and CLA. This disparity in results could be attributed to the fact that both TFA and CLA contents in milk were under the influence of not only farm and animal factors, but could also be result of specific manufacturing processes. Findings of this study showed that continuous efforts have to be made to control the levels of TFA in our local dairy products, while enhancing the content of CLA in dairy products. The consumer should also be educated and be aware of the health benefits or detriments of CLA and TFA, respectively.

Keywords: Milk, yogurt, cultured milk drink, *trans* fatty acids, conjugated linoleic acids