

The trans fatty acids content of selected foods in Malaysia

ABSTRACT

Introduction: There is a lack of information on the trans fatty acid (TFA) content in Malaysian foods. The objective of this study is to determine the TFA content of bakery products, snacks, dairy products, fast foods, cooking oils and semisolid fats, and breakfast cereals and Malaysian fast foods. This study also estimated the quantity of each isomer in the foods assayed. **Methods:** The trans fatty acid content of each food sample was assessed in duplicate by separating the fatty acid methyl esters (FAME) in a gas chromatography system equipped with HP-88 column (USA: split ratio 10: 1) for cis/trans separation. Five major TFA isomers, palmitoelaidic acid (16: 1t9), petroselaidic acid (18:1t6), elaidic acid (18:1t9), vaccenic acid (18: 1t11) and linoelaidic acid (18:2t9, 12), were measured using gas chromatography (GC) and the data were expressed in unit values of g/100 g lipid or g/100 g food. **Results:** The total TFA contents in the studied foods were <0.001 g-8.77 g/100 g lipid or <0.001 g-5.79 g/100 g foods. This value falls within the standard and international recommendation level for TFA. The measured range of specific TFA isomers were as follows: palmitoelaidic acid (<0.001 g-0.26 g/100 g lipid), petroselaidic acid (<0.001 g - 3.09 g/100 g lipid), elaidic acid (<0.001 g-0.87 g/100 g lipid), vaccenic acid (<0.001 g-0.41 g/100 g lipid) and linoelaidic acid (<0.001 g-6.60 g/100 g lipid). **Conclusion:** These data indicate that most of the tested foods have low TFA contents (<1 g/100 g lipid).

Keyword: Elaidic; Isomers of TFA; Linoelaidic; Malaysian foods; Palmitoelaidic; Trans fatty acids (TFA); Vaccenic and palm oil