ASSESSMENT OF OMEGA-6/OMEGA-3 POLYUNSATURATED FATTY ACID RATIO OF COMMON FILIPINO FOODS

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BACKGROUND

Literature shows that excessive amount of omega-6 Polyunsaturated Fatty Acids (PUFAs) and very high omega-6/omega-3 ratio, found in Western diets, promote the development of many diseases like cardiovascular disease, cancer, inflammatory and autoimmune diseases. Whereas, increased levels of omega-3 PUFAs (a lower omega-6/omega-3 ratio), have beneficial effects.

OBJECTIVE

This study aimed to (1) determine Linoleic Acid (LA), Alpha-Linolenic Acid (ALA), Arachidonic Acid (AA), Eicosapentanoic Acid (EPA) and Docosahexaenoic Acid (DHA) contents of 100 common Filipino foods and (2) assess these foods omega-6/omega-3 PUFAs ratio.

MATERIALS AND METHODS

Method for omega-6 and omega-3 analyses was validated before employing to target food samples. Samples used for the analysis were collected and shared from the previous and current projects involving studies on fast food dishes and processed foods.

RESULTS

Foods highest in LA, ALA, AA, EPA and DHA were peanut butter (14.8736 g/100g), salted egg (0.3363 g/100g), mayonnaise (7.0987 g/100g), and tinapa (0.319 g/100g and 1.0841 g/100g), respectively. Among the sampled fast food dishes, the highest omega-6/omega-3 PUFA ratios were found in fast food D beef rice meal, fast food B chicken breast and fast food B chicken leg. The lowest omega-6/omega-3 PUFA ratios were observed in fast food A beef pattie with rice, fast food A french fries and fast food D noodle soup (beef). For the other processed foods, the highest omega-6/omega-3 PUFA ratios were found in peanut butter, ampao, ham and cheese-flavored chips. The lowest omega-6/omega-3 PUFA ratios were observed in tinapa, dilis (big) and dilis-bauranon.

CONCLUSIONS AND RECOMMENDATIONS

The highest levels of omega-3 PUFAs were observed in fish samples, hence, lower omega-6/omega-3 PUFA ratios were observed. Fish samples are rich both in EPA and DHA. Further research should also be done with other omega-6 and omega-3 PUFAs since this study is only limited to LA and AA (omega-6 PUFAs) and ALA, EPA and DHA (omega-3 PUFAs). Ready-to-consume and/or cooked food samples should be analyzed since these already represent the true PUFAs consumed.