

A perspective on Monounsaturated Fatty Acids and Risk of Cardiovascular Disease

Abstract

No dietary recommendations for monounsaturated fatty acids (MUFA) are given by the National Institute of Medicine, the United States Department of Agriculture, European Food and Safety Authority and the American Diabetes Association. In contrast, the Academy of Nutrition and Dietetics, and the Canadian Dietetic Association both promote <25% MUFA of daily total energy consumption, while the American Heart Association sets a limit of 20% MUFA in their respective guidelines.

Electronic database Medline was searched for systematic reviews and meta-analyses using monounsaturated fatty acids^{||}, monounsaturated fat^{||}, and dietary fat^{||} as search terms with no restriction to calendar date or language. Reference lists and clinical guidelines were searched as well. Sixteen relevant papers were identified. Although no detrimental side effects of MUFA-rich diets were reported in the literature, there still is no unanimous rationale for MUFA recommendations in a therapeutic regimen. Additional long-term intervention studies are required to characterized efficacy and effectiveness of recommending MUFA-rich diet among general and clinical populations.

Keywords: monounsaturated fatty acids • cardiovascular disease • coronary heart disease • meta-analysis • systematic review • dietary fatty acid

Introduction

Monounsaturated fatty acids (MUFA) are unit with chemicals classified as fatty acids containing one covalent bond (in distinction to unsaturated fatty acids (PUFA) containing 2 or additional double bonds and saturated fatty acids (SFA) while not double bonds) [1]. Within the cis-configuration, the chemical element atoms are on an equivalent aspect because the covalent bond, whereas in Trans configuration the chemical element atoms and also the covalent bond area unit gift on opposite sides. The cis-isomers area unit the predominant variety of MUFA in food sources in 1999, the International Society for the Study of Fatty Acids and Lipids arranged a recommendation table on daily intake of fatty acids as a foundation for additional discussions. Adequate intake levels for adults were such with relevance relevance, omega-3 fatty acid, omega-3 fatty acid, likewise as higher limits for polyunsaturated fatty acid, trans-fatty acids, and saturated, given leastwise of total energy content (TEC), severally. Given a complete fat vary from V-day to four-hundredth of policeman, these recommendations enclosed the suggestion to supply the bulk of fatty acids within the variety of MUFAs. However, no precise worth (i.e., you look after policeman within the variety of MUFA) was given by the panel.

According to the Joint FAO/WHO skilled Consultation Committee, MUFA intakes ought to be determined by scheming the difference: MUFA (% of TEC) = total fat (% of TEC) – SFA (% of TEC) – PUFA (% of TEC) – TFA (% of TEC). consequently, MUFA intakes (% of TEC) can vary with relevance the overall fat and carboxylic acid composition of the diet . based mostly upon thirteen peer-reviewed background papers addressing fats and fatty

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acids in human nutrition, the Joint FAO/WHO skilled Consultation Committee finished that replacement of carbohydrates by MUFA beneficially will increase HDL-cholesterol, whereas the substitution of SFA with MUFA exerts favorable effects on LDL-cholesterol and also the quantitative relation of total sterol to HDL-cholesterol.

Description

The National sterol Education Program pointers have made public risk factors that increase CHD risk over a ten year amount. Elevated LDL-cholesterol (>100 mg/dL) remains the strongest primary think about predicting CHD and thus may be a primary target of medical care. However, as current triacylglycerols (TG) and HDL-cholesterol concentrations area unit crucial risk factors in metabolic syndrome, the TC:HDL-cholesterol quantitative relation has been expressed as a additional valuable marker in deciding CHD risk.

Electronic database telephone system (between 1966 and November 2012) was sought for systematic review and meta-analysis exploitation following search terms –monounsaturated fatty acids||, –monounsaturated fat|| and –dietary fat|| with no restriction to calendar knowledge and language. Reference lists and relevant clinical pointers were conjointly searched as compared, a significantly larger range of meta-analyses explored the results of PUFAs on maintenance or reduction of weight likewise as biomarkers of impaired aldohexose metabolism or CVD/CHD than there area unit systematic reviews and meta-analyses addressing the corresponding impact of MUFAs. Consequently, the

international recommendations for PUFA area unit additional consistent than those for MUFA, averaging a worth of 100% of policeman for healthy persons for the foremost half. If MUFA recommendations area unit given in the slightest degree, they vary between twelve-tone system and twenty fifth of policeman, equaling a stimulating range of ~30–70 g/day for a two.500 kcal-diet. Prestigious authorities and organizations like the National Institute of medication, the EFSA, the Agriculture and also the ADA don't give specific recommendation for MUFAs either for healthy folks or for patients in want of diabetic or vessel management.

Acknowledgement

None

Conflict of Interest

No conflict of interest

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