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Dear World Health Organization,

I have recently reviewed Annex 4: The Scientific basis for diet, nutrition and the prevention of cardiovascular disease. This report is peculiar in its bias towards previous dogma and its selective speculative use of the literature. Areas of recent literature (1) and new stable isotope based investigation techniques have been omitted. The conclusion overlooks specific evidence (2) that contradicts the interpretation cited. I note the following:

- Commodity based recommendations totally ignore the interaction between nutrients. This interaction or balance is particularly apparent for the metabolism of many individual fatty acids.
- Well-conducted clinical study has shown that 1-2 eggs per day, has no impact on plasma cholesterol levels. This seems to have been interpreted as 3-4 eggs per week??
- The report suggests caution and minimizing intake of palm oil. Palm oil is approximately half oleate and has potential to provide the provitamin A essential

to solving one of the major deficiencies in developing countries. Oil based products use blends to achieve physical properties. Surely it is preferable to use 16:0 instead of a high trans content to achieve these properties. The suggestion to minimize intake of palm oil is based on its notion that a higher intake of 8-10% of calories as palmitic acid is cholesterolemic. This relationship may occur but only when the intake of linoleic acid is much lower (i.e. < 3%) than that observed when the diets provide a higher intake of 16:0 and lower than the recommended intake of linoleic and linolenic acid. At the higher level of 18:2 intake 10% of calories as 16:0 is not cholesterolemic. (1)

- The report seems to ignore the notion that clear profound genetic difference and determinants exist in the factors that alter endogenous cholesterol synthesis. Little basis is provided to support the notion that less intake of cholesterol by >90% of individuals in populations consuming a higher fat intake will be beneficial. Simply stated this concept that less is better for all is as narrow and inappropriate as earlier recommendations for linolenic acid suggesting that more was better.
- The report recommends increased intake of 18:3 (n-3), in part on the belief that more will increase plasma levels of n-3 fatty acid products that reduce plasma TG levels. It has been quite well established that increased intake of 2-3 grams of 18:3 n-3 per day will have no effect on plasma levels of 20:5 n-3 and 22:6 n-3. (3) The basis for most of the information cited relies upon study of fasting measures of plasma lipid and cholesterol levels. It is now apparent that factors defining the post-prandial clearance may be more critical to the atherogenic process. This

being so, we will likely look back on the measure of fasting serum cholesterol levels as a secondary measure, that few of us physiologically achieve in countries where energy intake tends to be too high. It is also noteworthy, that the report ignores the real possibility, that much of its observational data cited may be confounded by lack of information on the relationship to plasma homocysteinemia levels and also on the apparent protective effects of specific antibiotic treatments.

I conclude that this report is more about consistency with recommendations of specific interest groups than an evaluation of current evidence. Please feel free to contact me with any questions or comments at tclandin@professorpufa.com or call at (780) 437- 2901.

Sincerely,

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Professor of Nutrition

References

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