



SUMMARY REPORT

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INTERNATIONAL CONFERENCE ON SATURATED FAT

25 September 2009, Danish Parliament, Copenhagen, Denmark
Co-organised by the European Dairy Association and the Danish Dairy Board

Summary Report

Ü Introduction

Prof. Arne Astrup, University of Copenhagen, Denmark

Prof. Astrup sketched the context in which this conference is held, i.e. the ongoing debate on the intake of saturated fatty acids, the recent publication of the EFSA "Draft Scientific Opinion on Dietary Reference Values for Fat" which suggests for public consultation to keep the intake of saturated fat as low as possible, and the proposed saturated fat tax in Denmark. Prof. Astrup asked himself the question whether this Danish proposition is substantiated by evidence-based science. He remarked that Denmark was the first country to eliminate industrially produced *trans* fatty acids as science showed obvious health benefits for the population and no adverse effect on taste or price when industrially produced *trans* fatty acids would be removed. Prof. Astrup therefore put forward four questions for the debate with regards to the tax on saturated fatty acids: 1. Is the introduction of a saturated fat tax backed by scientific evidence? 2. Is there any weakness in the science regarding saturated fat and their impact on human health? 3. What about the relationship between saturated fat and obesity/cardiovascular disease (CVD)? 4. Are there any adverse effects?

Ü Introductory remarks

Mrs Eva Kjer Hansen, Danish Minister for Food, Agriculture and Fisheries

Mrs Eva Kjer Hansen started her remarks by highlighting that the debate about health concerns everybody and that it is important to discuss which tools works best to improve health. She explained that the possible tax on saturated fat is only one element of the discussion and that the government will carefully consider all elements in order to avoid unwanted side effects. The ultimate aim of this tax is to improve the health of the Danish consumer but other elements such as the administrative burden for the food industry and cross-border trade aspects of the tax also have to be taken into account. Furthermore, diet is a personal choice and the consumers have to take a stand and personal responsibility.

However, in Mrs. Hansen's view, the health of the consumer is a shared responsibility of the government, the consumer, the food industry and the retailers. The government's role is to support the consumer in adopting a healthy diet and the aim is to reach a situation in which the consumer goes for the healthier options when making dietary choices. In order to do so, a number of elements need to be in line: raise awareness about dietary recommendations and healthy choices, provide precise, reliable and not misleading information about foods, and make healthy foods available. Also the price plays an important role when a consumer is about to make dietary choices. Mrs Hansen put forward the government's supported Keyhole labelling scheme as help for consumers to choose foods with less fat, sugar and salt and more fibre. Also GDA-labels can provide useful information about food composition.

Mrs Hansen underlined that the government will carefully review the outcome of the hearing on the proposed tax on saturated fat and will modify the proposal appropriately. She stated that research on saturated fatty acids in various areas should provide the knowledge necessary for the government to formulate sound recommendations.

Ü Presentation: What is the contribution of dairy products to daily nutrition?

Mr Michael Stevns, Managing Director, Danish Dairy Board

Mr Stevns started his contribution by underlining that dairy is a part of our daily diet. To illustrate that, he gave an overview of the contribution of dairy products to the daily Danish diet. Dairy products are a source of many life-essential nutrients. This nutrient density is one of the major advantages of having dairy products in our daily nutrition. Mr Stevns is concerned when dairy products are compared to smoking and considered as evil part of the diet as this might lead to reduced dairy consumption and to people missing out on many positive nutrients which has negative impact on public health.

Mr Stevns stated that the dairy industry has already done a lot to reduce the fat levels in milk and other dairy products. He showed that milk consumption in Denmark has changed towards skimmed milk in the last years and that a variety of dairy products with different energy content are already available. Without regulatory intervention and due to different reasons, saturated fat intake in Denmark decreased by 25% in the last decade - and is still continuing due to an increasing health consciousness of the Danish population based on generic marketing campaigns on the healthiness of dairy consumption - showing that there is no need for a regulation on saturated fat. Mr Stevns believes that it is essential to have a milk culture and that imposing a tax on saturated fat would cause a loss of product quality.

Ü Presentation: Saturated Fats: A Milk Perspective

Prof. J. Bruce German, Department of Food Science and Technology, University of California, Davis, USA

Prof. German first mentioned that there is no possibility to talk about nutrients without discussing a dose. At a certain level all nutrients are toxic for the human body. It is therefore important to talk about the appropriate dose for saturated fat and whether saturated fat itself might be the problem or rather excessive intake.

Prof. German indicated that recent recommendations for dietary intake have primarily targeted total fat, cholesterol and saturated fat intake as the principle means to improve human health. These recommendations have led to efforts to reduce saturated fat in the diet and to the long-term agricultural objective to eliminate these components from human foods. However, without knowing the exact mechanisms of action of saturated fatty acids, it cannot be assumed that there is a general benefit of this reduction to all individuals.

New evidence over the past five years has changed our view and understanding of the effects of diet and particularly saturated fat. For example, the mechanism explaining the perplexing fact that dietary cholesterol does not raise blood cholesterol and that specific saturated fatty acids do has been shown. Prof. German also explained that the intake of saturated fatty acids raises blood cholesterol as part of a complex signalling system in the body that, among others, increases the flow of nutrients around the body and protects the body. He also mentioned that science around LDL and HDL cholesterol has evolved. While CVD risk increases when LDL cholesterol in the blood goes up, low HDL cholesterol is a greater predictor of risk of heart disease than high LDL cholesterol. And there are components in milk that seem to increase the production of HDL in the blood.

Prof. German closed by saying that all components of the diet are potentially important and that saturated fat has a very active metabolic role. Scientific evidence does not support the recommendation that saturated fat intake should be "as low as possible" if this is interpreted as "zero". The appropriate amount of saturated fat is likely to be different for each individual and depends on genes, life stage and lifestyle. Prof. German indeed suggested that, based on recent scientific evidence, in personalized diets appropriate doses of saturated fats are likely to have a beneficial impact.

Ü Presentation: Origin, metabolism and cellular functions of saturated fatty acids

Prof. Philippe Legrand, Agrocampus-INRA, University of Rennes, France

Prof. Legrand stated that the negative image of fat and especially saturated fat is exaggerated. There is no life without saturated fatty acids which are also produced by the human body. Saturated fatty acids have different origins and that there are different groups of saturated fatty acids with different abundance in exogenous and endogenous sources: short-chain, medium-chain, and long chain saturated fatty acids. Individual saturated fatty acids have different important biological functions.

Prof. Legrand further indicated that based on the latest science there is no reason to consider saturated fatty acids as a single group anymore in terms of structure, metabolism, cellular functions and health effects. Only three of the many different saturated fatty acids found in milk fat (lauric acid C12:0, myristic acid C14:0, palmitic acid C16:0) should now be considered as atherogenic, when consumed in excess. Myristic acid, for example, has a physiological dose and only above that deleterious effects. Short-chain and medium-chain saturated fatty acids do not have cholesterol raising effects. Some saturated fatty acids in milk fat might even have beneficial effects on the cholesterol metabolism.

Prof. Legrand concluded that it is time for up-to-date dietary recommendations without demonization of saturated fatty acids. In his view, saturated fatty acids in dairy products have an interesting composition and should not be considered as target for any reduction policy. He pleaded for more precise studies to investigate further on a possible dose-effect and to put the different saturated fatty acids into perspective.

Ü Presentation: How does eating dairy products impact health in the long run?

Prof. Peter Elwood, Department of Primary Care and Public Health, Cardiff University, Wales

Prof. Elwood started his contribution by confirming that he does not receive and has never received any funding from the dairy industry. He mentioned that dairy consumption should not only be considered based on effect of dairy intake on cholesterol levels which is currently done by many public health authorities. Dairy has many other nutrients besides saturated fatty acids that impact health and it is important to consider the direct relation between dairy intake and disease outcomes.

Prof. Elwood subsequently presented the results of a meta-analysis and systematic review carried out in line with the Cochrane principles of all cohort studies which looked into the association between dairy products as a whole as well as different dairy products and health outcome incl. vascular and heart diseases, stroke and type 2 diabetes. Prof. Elwood mentioned that the available science on dairy foods is scarce and that for several dairy foods the evidence is not always consistent. However, all results point in a positive direction and for milk there are two significant results: (1) milk consumption is associated with a 19% reduction in heart disease and (2) dairy foods are associated with a 21% reduction in diabetes. And there are no consistent findings that dairy consumption is associated with higher risk of CVD.

Prof. Elwood concluded that the results of studies prevent the firm drawing of conclusions in terms of disease risk with any reasonable degree of confidence and was therefore questioned how those few studies can be the basis for public health food policy of dairy consumption. He also questioned whether fat-reduced milk provides an advantage over whole milk as most evidence presented relates to whole fat dairy as fat-reduced products were not available when the studies were carried out.

Prof. Elwood closed with a call for further evidence from cohort studies milk/dairy consumption and effects on health before any new advice is given on dairy foods, and before policy relating to dairy foods is changed. Public health nutrition policy must be based on valid evidence and not selected physio-pathological data such as cholesterol levels in blood. Milk consumption should be promoted and not taxed.

Ü Panel Discussion

After the presentations, Prof. Astrup opened the panel discussion with stating that research over last 5 years have told us new things about saturated fatty acids and that there is no reason to have this saturated fat tax today. In response to a recent study which looked into the relationship between dairy consumption and the metabolic syndrome and recommends the consumption of low-fat dairy products in order to reduce the intake of saturated fatty acids, the experts responded that the study did not consider the latest science on different saturated fatty acids and the fact saturated fatty acids should not longer be considered as one single group. In addition, one should look at the whole food category, and not the sole ingredient. The panel confirmed that is not desirable to eliminate fat from our daily diet as this elimination would have adverse effects. Prof. Elwood mentioned that until better markers for the relation between dairy consumption and disease outcome are available, evidence from epidemiological studies are the only evidence base we have.

Several attendants raised concerns about the impact of reduced consumption of dairy foods and a move from basic/natural foods to composed foods as possible consequences of the introduction of a saturated fat tax. The scientists were concerned about this proposal and expressed the need to study the potential adverse effects. The taxation cannot become reality on the basis of assumptions and should certainly not result in a replacement of natural foods, such as milk, by composed foods. The panel agreed that milk contains a lot of healthy components and that reduced consumption of dairy products is not the way to go. Prof. Legrand mentioned that every time nutrients are eliminated, it is like playing with fire if we do not know what the effects will be. The aim should be to obtain a balance of different fats in the diet in conjunction with the intake of other nutrients. More data are also needed on the impact this tax might have on other elements such as the consumer, industry, cross-border trade, etc.

On the question whether economic status needs to be taken into account when making recommendations on dietary intake, panellists responded affirmative because recommendations should be adapted to personal elements of lifestyle and purchasing behaviour. Prof. Elwood pointed out to carefully consider the impact of a tax especially on the poorer parts of the population that might decrease dairy intake as a consequence.

Prof. German raised also the issue that it is indeed possible for agriculture to get rid of saturated fats in the long-term. However, by the time people will realize that with the saturated fatty acids also their possible advantages have been eliminated, it will be as difficult to get saturated fatty acids and their advantages back. Another point he mentioned was whether human breast milk - which actually has a high saturated fat content - would be affected by the proposed tax.

Regarding the recent EFSA draft scientific opinion on DRVs for fat which recommends for public consultation to reduce the intake of saturated fatty acids 'as low as possible', Prof. German responded that this recommendation is not useful for the public as it is often misunderstood as 'zero'. In addition, he pointed out that overall dietary recommendations are not appropriate for all people in the population and that we should stop putting everybody into one recommendation. If this recommendation is followed while cohort studies indicate the benefits of saturated fatty acids, then this would certainly not be the way to go.

In conclusion, Prof. Astrup underlined the reduction of cardiovascular mortality in Denmark the last 10-15 years due to different reasons as well as his concern with regards to the current Danish proposal for taxation of saturated fats which, based on the evidence reviewed today, he believed could do more harm than good on the consumer's health. With the increasing scientific evidence about the interactions between saturated fatty acids and health available today, there is no conclusive evidence to make broad dietary recommendations on restricting saturated fat intake to as low as possible or even 'zero'. On the contrary, removing saturated fatty acids might actually have negative effects. Prof. Astrup therefore called on reconsidering policy options for saturated fat such as the proposed tax in Denmark and its elements.