

TFA: TO BE OR NOT TO BE IS THE QUESTION?

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Abstract: The current paper studies the TFA (Trans Fatty Acid) and its effect. How globally the TFA is under scrutiny and a matter of debate and discussion. The paper sees TFA in its wholesomeness, its conceptual definition, its effect on health and what's the future of TFA. The paper's objective is to open the eyes of policy makers of developing countries where they do not succumb to TFA abuse due to negligence.

Keywords: Trans Fatty Acids, Denmark, India, Heart Diseases.

I. INTRODUCTION

Recent changes in the guest demands have witnessed, educated developed country guests asking for Trans Fat Free foods. Health has moved much beyond the domains of just salad or cereals or low carb diet but zero trans fat hotels. This will ensure hotels walking an extra mile; taking a leap ahead of times in terms of quality and service. The hospitality industry in India cannot wait for the government to take action. The recent news has not been very promising. Press release by the CSE a premier environment laboratory confirms governments' inability to handle trans fat.

In the current study as a background study, an analysis of food policies of 6 different countries was done (Margaret and Schmidt 2006). All the deductions hinted that India too urgently needs to take necessary steps; at least the hotels forging into health cuisine and low calorie food. Though the concept is not almost alien yet the start itself has been very slow.

In 2004, the Union health ministry's Oils and Fats Sub-committee, under the Central Committee for Food Standards, begun discussions on a standard for trans fats. In January 2008, the sub-committee forwarded its recommendations to the Central committee for Standards, but the Central committee is still awaiting more data and information. This procrastination means while there are no legal standards in India.

There are many global examples that can be followed on the lines of New York city a whole range of zero trans fat products are released or like in the case of France heavily tax import of palm PHFA as they are very heavy in Trans Fats, In fact Chefs have turned back to more traditional and but natural sources of fat used about half a century ago which are natural as well as mostly trans fat free. India too has its examples of traditional fats which can provide answers.

II. MEANING OF TRANS FATS

Trans fatty acids, also known as trans fat, is an artery-clogging fat that is formed when vegetable oils are hardened into margarine or shortening (Mercola 2003). It is found in many other foods besides margarine and shortening, however, including fried foods like french fries and fried chicken, doughnuts, cookies, pastries and crackers. In the United States, typical french fries have about 40 percent trans fatty acids and many popular cookies and crackers range from 30 percent to 50 percent trans fatty acids. Doughnuts have about 35 percent to 40 percent Trans' fatty acids.

Trans fat is known to increase blood levels of low density lipoprotein (LDL), or "bad" cholesterol, while lowering levels of high density lipoprotein (HDL), known as "good" cholesterol. It can also cause major clogging of arteries, type 2 diabetes and other serious health problems, and was found to increase the risk of heart disease. Many food companies use

trans fat instead of oil because it reduces cost, extends storage life of products and can improve flavor and texture. One problem with the use of trans fat is that food companies were not required to list it on nutrition labels so consumers had no way of knowing how much trans fat was in the food they were eating. Further, there is no upper safety limit recommended for the daily intake of trans fat. The Food and Drug Administration (FDA) has only said that "intake of trans fats should be as low as possible."

In a step in the right direction, the FDA has announced a final rule requiring food manufacturers to list trans fat on Nutrition Facts labels. The bad news is that the labels are not required until 2006 so consumers will need to fend for themselves when making food choices until that time.

While some foods like bakery items and fried foods are obvious sources of trans fat, other processed foods, such as cereals and waffles, can also contain trans fat. One tip to determine the amount of trans fat in a food is to read the ingredient label and look for shortening, hydrogenated or partially hydrogenated oil. The higher up on the list these ingredients appear, the more trans fat.

You can also add up the amount of fat in a product (saturated, monounsaturated and polyunsaturated), provided the amounts are listed, and compare the total with the total fat on the label. If they don't match up, the difference is likely trans fat, especially if partially hydrogenated oil is listed as one of the first ingredients.

A few companies, like Frito Lay, Lipton, and Nestle have already taken steps to eliminate trans fat in some products. Nestle is removing it from Rolo and Toffee Crisp and possibly other products. Their competitor, Cadbury, is also considering removing trans fats from some of its products.

Recently a lawsuit was filed against Nabisco, the Kraft Foods unit that makes Oreo cookies, seeking a ban on the sale of Oreo cookies because they contain trans fat, making them dangerous to eat. The case was later withdrawn because the lawyer who filed the suit said the publicity surrounding the case accomplished what he set out to do: create awareness about the dangers of trans fat. Kraft is also among the companies making efforts to reduce trans fatty acid in their products..

III. HEART DISEASE AND TFA

Intake of high levels of trans fatty acids has been linked to heart disease at the studies conducted throughout the world it was found that intake of trans fatty acids in regular diet can lead to a raise of LDL and lowering the levels of HDL so much so that it left behind saturated fats and proving that trans fats are much more harmful than saturated fats. Saturated fats specifically from a natural food do not harm as much as the trans fats do (Fogorous nd).

Unfortunately, as it turns out (and as we were relatively slow to learn), trans fats increase total cholesterol levels and LDL cholesterol levels; worse (and in contrast to saturated fats), they *reduce* HDL cholesterol levels. Trans fats also appear to interfere with the body's usage of omega-3 fatty acids , which are important for heart health.

In other words, trans fatty acids are bad for cardiovascular health (Mozaffarian et al. 2006).

IV. TFA AND WHO

According to WHO only 1% of energy intake should come from the consumption of trans fatty acids with relatively high even in band induced countries such as Canada Denmark UK America and various other places it was found that around 76% foods met with voluntary ban that was off the package foods.

The removal of partially hydrogenated vegetable oils containing industrially produced TFAs from the food supply has been described as one of the most straightforward public health interventions for improving diet and reducing the risk of non-communicable disease. In fact, the World Health Organization (WHO) has called for the elimination of TFAs from the global food supply. In response to the rise in the prevalence of non-communicable diseases, of which cardiovascular disease is the most common, the United Nations hosted a high-level meeting on the topic in September 2011. The political declaration that resulted from this meeting led to the development, in consultation with Member States, of a WHO global framework for monitoring non-communicable diseases. This framework stipulates global indicators and targets for monitoring non-communicable diseases up to 2025, including a small number of indicators associated with specific time-dependent targets and core indicators that will be monitored but are not linked to specific targets. One core indicator is the

“adoption of national policies that virtually eliminate partially hydrogenated vegetable oils in the food supply and replace [them] with polyunsaturated fatty acids”.

Although the removal of TFAs from the food supply has been identified as a “best-buy”

V. TFA GLOBALLY AND INDIA

The content of trans fatty acids (TFA) in Danish American and trans European food has been monitored for the last 30 years. In margarines and shortenings, the content of TFA has steadily declined from about 10 g/100 g margarine in the seventies to practically no TFA in margarines in 1999. In order to efficiently reduce the health risk related to TFA, Globally it has been decided to impose a maximum level of 2 g/100 g fat on industrially produced TFA. In Denmark As labelling was deemed insufficient to protect the consumers, especially risk groups like children or people with high intake of fast foods. A broader range of food was monitored with 253 samples in 2003 and 148 samples in 2005 after the Danish regulation was in effect. The investigations show that the TFA content has been reduced or removed from the products with high TFA content originally, like French fries, microwave oven popcorn and various bakery products, so IP-TFA are now without any significance for the intake of TFA in Denmark (Margaret and Schmidt 2006). In India before labelling compulsion only voluntary quality audits to confirm standards It was found that in our country none of the standardization requires the trans fat and fat profile to be controlled including Agmark, Bureau Of Indian Standards, Prevention Of Food And Adulteration Act 1954 etc.

VI. REGULATING INTAKE OF SATURATED AND TRANS FATS

The American Heart Association recommends that adults who would benefit from lowering LDL cholesterol reduce their intake of trans fat and limit their consumption of saturated fat to 5 to 6% of total calories. Here are some ways to achieve that (AMA 2014):

- Eat a dietary pattern that emphasizes fruits, vegetables, whole grains, low-fat dairy products, poultry, fish and nuts. Also limit red meat and sugary foods and beverages.
- Use naturally occurring, unhydrogenated vegetable oils such as canola, safflower, sunflower or olive oil most often.
- Look for processed foods made with unhydrogenated oil rather than partially hydrogenated or hydrogenated vegetable oils or saturated fat.
- Use soft margarine as a substitute for butter, and choose soft margarines (liquid or tub varieties) over harder stick forms. Look for “0 g trans fat” on the Nutrition Facts label and no hydrogenated oils in the ingredients list.
- Doughnuts, cookies, crackers, muffins, pies and cakes are examples of foods that may contain trans fat. Limit how frequently you eat them.
- Limit commercially fried foods and baked goods made with shortening or partially hydrogenated vegetable oils. Not only are these foods very high in fat, but that fat is also likely to be trans fat.

VII. CONCLUSION

It was found that although various countries of the world have put in various laws and regulations to tame, the TFA epidemic. But still all this is not enough. It has been found that in spite of the ban all packaged goods have reduced amount of TFA in the products and if the TFA is present however the amount has to be printed upon product but in a strange case it was found that non-packaged food products were being sold without any label and with a lot of trans fats. Tans fats have been specifically used for frying and the fact that was kept in the store was labelled as TFA free but after the chromatography of the oil found in the fat fryer it was seen that the fat used in fat fryers was specifically the TFA. Secondly in spite of the ban in most countries it was clearly seen that food marked with non-TFA was nowhere to be cheaper then the food with TFA hence making it a elite product rather than products for daily use and found use in high end supermarkets rather than the streetside grocery shops. This is a very strong inhibitor for making TFA ban a possibility in developing countries such as India if such changes are made to Indian food market it would definitely effect the high end shelf life. Local bans in this regard has been much more effective than other forms of banning. So it can be logically

concluded that the best way to get rid of TFA fats is not to try and label the foods that we eat in part the best way out is to make sure that we turn back to age old fats that our chefs and cooks used traditionally for cooking food.

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