

Presence of trans fatty acids containing ingredients in pre-packaged foods in Australia in 2018

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Trans fats are estimated to contribute to more than 500,000 deaths from coronary heart disease (CHD) each year globally.¹ While ruminant foods contain a small amount of naturally occurring trans fats, high levels in the diets typically come from industrially produced trans fats (iTFA) made by hydrogenation of vegetable oils. The World Health Organization (WHO) recommends countries develop legislation to eliminate iTFA from the food supply as a 'best buy' to prevent non-communicable diseases, and in 2018 launched the REPLACE (Review, Promote, Legislate, Assess, Create and Enforce) package to encourage global elimination of iTFA by 2023.¹

In Australia, the declaration of trans fats content on the Nutrient Information Panel (NIP) is voluntary, and there are no regulations limiting the use of iTFA ingredients.^{1,2} Studies found levels of iTFA in edible oil spreads (a historically important contributor to TFA intake) declined significantly from 1993 (8–14.5% of total fat) to 2013 (\leq 3.3% of total fat), suggesting voluntary reformulation by food manufacturers.^{2,3} However, more recent surveys of key product categories conducted between 2005 and 2013 found no appreciable further removal of iTFA. Levels are particularly high in some products (e.g. popcorn and baked foods) and substantially exceeded 2% of total fat, the limit set by several European countries.²

To help inform the goal of iTFA elimination, our study aimed to assess the presence of iTFA in the current Australian packaged food supply.

Abstract

Objective: The World Health Organization (WHO) has set a goal of prompt, complete and sustained elimination of industrially produced trans fats (iTFA) in the global food supply by 2023. We aimed to assess the number of products in the Australian packaged food supply likely to contain iTFA.

Methods: Using a large pre-packaged food monitoring database collected in 2018, we searched the ingredient list using specific and non-specific ingredient terms to identify products likely to contain iTFA.

Results: In total, 28,349 foods were included for analysis: 131 (0.5%) products contained specific ingredients indicative of iTFA, and 1,626 (5.7%) products contained non-specific ingredients that may indicate the presence of iTFA. Bread and bakery products, cereal and grain products and confectionery were the top three food groups that contained specific ingredients indicative of iTFA. Only 19 (14.5%) products with specific iTFA-indicating ingredients declared the amount of trans fats.

Conclusions and implications for public health: Compared to other countries, the use of iTFA-containing ingredients is low in Australia, but repeated exposure to products containing iTFA could still put consumers at risk of excessive consumption. Legislation to eliminate iTFA should be considered to minimise the exposure to these harmful chemicals.

Key words: trans fats, pre-packaged food, nutrition labelling

Methods

Data source

We used a pre-packaged food monitoring database (FoodSwitch) for this analysis. Information of all pre-packaged foods from one store each of five major Australian supermarkets (Woolworths, IGA, Coles, Harris Farms and Aldi) were collected by trained staff between August and October 2018 in the Sydney metropolitan area. These supermarket chains account for more than 80% of the Australian packaged food market.⁴ Images of the food packaging were captured, using a bespoke smartphone application,

and then the data extracted and the images stored.

Analysis

We searched the ingredient list of each product using specific terms (Partially Hydrogenated Fat, Hydrogenated Vegetable Oil and Hydrogenated) that indicate ingredients that are sources of iTFA.⁵ In addition, we searched for non-specific terms (Vegetable Fat, Margarine and Vegetable Cream) which may or may not indicate the presence of iTFA-containing ingredients.⁵ Number and proportion of foods containing iTFA-indicating ingredients were calculated

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across all products and for each major food group and different manufacturers. For products that contained iTFA-indicating ingredients, we also assessed the proportion that quantified trans fats in the NIP.

Results

A total of 28,349 foods were included for analysis. Of these, 131 (0.5%) products contained specific ingredients indicative of iTFA (Table 1) and 19 (14.5%) of them reported on the level of trans fats on the NIP. The top three categories that contained specific ingredients indicative of iTFA were bread and bakery products (n=42, 32.1%), cereal and grain products (n=29, 22.1%) and confectionery (n=26, 19.9%). Nearly half (n=57, 43.5%) of the iTFA-containing products were produced by Coles (n=22, 16.8%), Woolworths (n=20, 15.3%), and Kellogg's (n=15, 11.5%) and the rest were produced by a diverse range of food companies.

A total of 1,626 (5.7%) products contained non-specific ingredients that may indicate the presence of iTFA, with the top three categories being bread and bakery products (n=590, 36.3%), confectionery (n=364, 22.4%), and meat and meat products (n=163, 10.0%).

Discussion

Despite growing global momentum to eliminate iTFA, it remains present in a small number of packaged foods in Australia. Nearly half the products containing iTFA in Australia in 2018 were owned by a few major manufacturers.

Our analysis suggests that the use of iTFA-containing ingredients is low in Australia compared to other countries. For example, analysis in Brazil identified 4.1% of packaged products contained specific ingredients indicative of iTFA.⁵ This notwithstanding, those who are regular consumers of products containing iTFA remain at risk of unacceptably high exposure. Indeed, the last nationally representative dietary survey suggested 10% of adults continue to exceed WHO-recommended intake of trans fats (with intake levels being highest among groups from lower socioeconomic backgrounds), and approximately 1.5% of CHD mortality was attributable to trans fat intake.⁶

Furthermore, our findings that trans fat levels are inconsistently displayed on the NIP for products containing iTFA-specific ingredients suggest consumers lack information to make informed choices. Together, these findings highlight the need for Australia to promote health equity and strengthen policies to meet the WHO goal of ensuring complete and

sustained elimination of iTFA from the food supply.

Actions recommended in the WHO REPLACE package include mandatory iTFA limits, replacement of iTFA with healthier fats, and mandatory nutrition labelling requirements.¹ Such actions are already being implemented by a growing number of countries globally. Mandatory iTFA limits or bans are now in effect in 28 countries, protecting more than 2.4 billion people.¹ For instance, the US has removed the 'generally recognised as safe status' for partially hydrogenated vegetable oils, essentially banning their use. Research suggests that replacing iTFA with healthier oils and fats is also feasible without changing the taste of food or its cost to consumers.¹ The time is now for Australia to consider these measures, including through the use of mandatory legislation, to remove remaining iTFA from the food supply.

Some limitations of our study should be noted. Analysis of non-specific iTFA-indicating ingredients should be interpreted cautiously and could be further validated by the use of chemical analysis of trans fat levels in such products. Our focus on packaged foods means that we did not include products such as freshly baked goods, which may have resulted in an underestimation of sources of iTFA in the Australian food supply.

References

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Table 1: Trans fats profile of pre-packaged food in Australia in 2018.

Food group	Total n	No. (%) of products contains any specific terms indicating trans fats	No. (%) of products contains any non-specific terms indicating trans fats
Alcohol	156	0 (0.0)	0 (0.0)
Bread and bakery products	2,989	42 (32.1)	590 (36.3)
Cereal and grain products	2,349	29 (22.1)	118 (7.3)
Confectionery	1,647	26 (19.9)	364 (22.4)
Convenience foods	1,970	1 (0.8)	79 (4.9)
Dairy	3,352	3 (2.3)	118 (7.3)
Edible oils and oil emulsions	524	2 (1.5)	2 (0.1)
Eggs	86	0 (0.0)	0 (0.0)
Fish and fish products	842	0 (0.0)	1 (0.1)
Fruit and vegetables	4,009	2 (1.5)	8 (0.5)
Meat and meat products	2,507	1 (0.8)	163 (10.0)
Non-alcoholic beverages	2,735	6 (4.6)	16 (1.0)
Sauces, dressings, spreads and dips	2,528	3 (2.3)	56 (3.4)
Snackfoods	762	3 (2.3)	39 (2.4)
Special foods	868	12 (9.2)	60 (3.7)
Sugars, honey and related products	494	1 (0.8)	12 (0.7)
Unable to be categorised	41	0 (0.0)	0 (0.0)
Vitamins and supplements	490	0 (0.0)	0 (0.0)
Total	28,349	131 (100.0)	1,626 (100.0)

Note: Specific terms include "Partially Hydrogenated Fat", "Hydrogenated Vegetable Oil" and "Hydrogenated" and exclude "Fully Hydrogenated". Non-specific terms include "Vegetable Fat", "Margarine" and "Vegetable Cream". Special foods are foods for special dietary use, including meal replacements, sports foods, infant and baby food, etc.