

## ELIMINATION OF TRANS FATS – SCIENCE & TECHNOLOGY

NEWS: The World Health Organization (WHO) officially recognised four countries — **Austria, Norway, Oman and Singapore** — for eliminating industrially produced trans fats from their national food supplies at the **78th World Health Assembly** in Geneva, Switzerland.

### WHAT'S IN THE NEWS?

#### What is Trans Fat (Trans-Fatty Acids or TFA)?

- **Definition:**  
Trans fats are a type of **unsaturated fatty acids** that possess at least one **double bond in the trans configuration**, altering their chemical structure and increasing their health risks.
- **Forms of Trans Fat:**
  - **Naturally Occurring:** Found in small amounts in **meat and dairy products** from ruminant animals such as **cows, sheep, and goats**.
  - **Industrially Produced:** Created through **partial hydrogenation** of vegetable oils, commonly present in **margarine, vanaspati ghee, baked goods, and fried snacks**.
- **Health Impact Parity:**  
Both **naturally occurring** and **industrially produced** trans fats are **equally harmful** to human health.

#### WHO Recommendation for Trans Fat Intake

- **Global Guideline:**  
WHO recommends that trans fat intake be limited to **less than 1%** of total energy intake for adults.
- **Daily Limit:**  
For a 2000-calorie diet, this translates to **less than 2.2 grams per day**.

#### Types of Healthy Dietary Fats (Recommended Alternatives)

- **Monounsaturated Fats:**  
Contain a **single double bond**; found in **olive oil, avocados, and nuts**. These support heart health.
- **Polyunsaturated Fats:**  
Contain **multiple double bonds**; includes **omega-3 (alpha-linolenic acid)** and **omega-6 (linoleic acid)** fatty acids.  
Found in **flaxseeds, fish, sunflower oil, and walnuts**, they are essential for brain and cardiovascular health.

#### Health Impacts of Trans Fat Consumption

- **Cardiovascular Disease:**  
Trans fats **increase LDL (bad) cholesterol** and **decrease HDL (good) cholesterol**, significantly raising the risk of **heart attacks and strokes**.

- WHO attributes **over 278,000 deaths globally each year** to trans fat intake.
- **Chronic Inflammation:**  
Trans fats can **induce inflammation**, worsen **insulin resistance**, and aggravate conditions like **type 2 diabetes** and **metabolic syndrome**.
- **Obesity:**  
Even without excessive calorie consumption, trans fats promote **visceral fat accumulation**, leading to **abdominal obesity** and metabolic complications.
- **Brain Health:**  
Research links high trans fat consumption with **poorer memory**, **cognitive decline**, and increased **risk of depression and neurodegenerative diseases**.

### WHO Targets vs Global Status (as of May 2025)

- **WHO Targets for 2025:**
  - At least **90% of the global trans fat burden** should be covered by **best-practice policies**.
  - Within each WHO region, a minimum of **70% coverage** is targeted.
- **Current Global Status:**
  - Only **60 countries** have implemented best-practice trans fat elimination policies.
  - These cover just **46% of the global population**, indicating significant gaps.

### Reasons Behind Widespread Use of Trans Fat

- **Cost-Effectiveness:**  
Trans fats are **cheaper** than healthier oils, making them economically attractive for manufacturers.
- **Physical Properties:**  
Being **solid at room temperature**, trans fats enhance **texture, shelf life, and stability** in processed foods.
- **Versatile Culinary Use:**  
Widely used in **baking, frying, and packaging**, trans fats are common in **snacks, pastries, and fast food**.

### Understanding Saturated Fats (Comparison with Trans Fats)

- **Chemical Nature:**  
Saturated fats have **no double bonds**, making them **solid at room temperature** with a **higher melting point**.
- **Food Sources:**  
Found in **red meat, butter, ghee, cheese, and coconut oil**.

- **Health Guidelines:**

Most health agencies recommend that **saturated fat intake be limited to less than 10%** of daily caloric intake, and **replaced with unsaturated fats** where possible.

## **India's Measures to Eliminate Trans Fat**

### **a. Regulatory Limit (Since January 2022)**

- India imposed a **mandatory limit of 2%** industrially produced trans fats in **oils and fats**.
- Enforced through the **Food Safety and Standards (Prohibition and Restrictions on Sales) Second Amendment Regulations, 2021**.
- India became the **second Asian country** (after Thailand) to adopt such comprehensive restrictions.

### **b. FSSAI's 'Heart Attack Rewind' Campaign**

- A nationwide media campaign by the **Food Safety and Standards Authority of India (FSSAI)**.
- Aims to raise awareness about the **lethal health risks of trans fat consumption** and promote **trans fat-free India**.

## **WHO Best Practices and Global Strategy to Eliminate Trans Fat**

### **a. Mandatory National Policies**

- **Limit:** Enforce a national limit of **2 grams of industrially produced trans fat per 100 grams** of total fat in all foods.
- **Ban:** Prohibit the **production and use of partially hydrogenated oils**, a primary source of industrial trans fats.

### **b. WHO's REPLACE Framework**

The **REPLACE** action package consists of six strategic actions to eliminate industrial trans fats:

1. **REview:** Identify major sources of trans fat and assess policy needs.
2. **Promote:** Encourage substitution with **healthier fats and oils**.
3. **Legislate:** Enact laws to restrict or eliminate industrial trans fats.
4. **Assess:** Monitor levels of trans fat in the food supply and public intake.
5. **Create Awareness:** Educate **governments, manufacturers, and the public** on health impacts.
6. **Enforce:** Implement and monitor compliance with regulations.