Trans-fatty Acid Elimination in Pakistan: A Policy Brief
31 July 2019

Introduction
The following policy brief on Trans-fatty Acids (TFA) in Pakistan has been prepared on the basis of two recent studies, one by the World Health Organization (WHO) and Ministry of National Health Services Regulations and Coordination (Nutrition Wing) titled “Dietary risk factors for NCDs in Pakistan (with focus on TFAs) and strategies to reduce their burden” and another by Heartfile titled “Trans Fatty Acid Elimination in Pakistan - A Situational Analysis”. This policy brief outlines the prevalence and sources of Trans-Fatty Acids in Pakistani diet and outlines a roadmap for TFA elimination for policymakers and civil society to consider in Pakistan’s context.

Cardiovascular disease is the leading killer globally, causing more than 18 million deaths each year. The World Health Organization (WHO) recommends limiting total TFA intakes to less than 1% of total energy intake. Reducing consumption of TFA has the potential to reduce the global burden of cardiovascular disease, particularly in those countries that consume >0.5% of total energy from TFAs. Globally, half a million people die every year due to the TFA in their food. Although significant progress has been made to reduce TFA in the food supply of many countries worldwide, high levels of TFA remain in food, particularly in low- and middle-income countries. In fact, ten countries (of which Pakistan is one) make up 80% of deaths from coronary heart disease attributed to TFA intakes. The elimination of industrially produced TFA from the global food supply is feasible and cost-effective. The removal of industrially produced TFA from the global food supply has been called one of the most straightforward public health interventions to improve population health. Removing industrially produced TFA from the food supply is economically and technically feasible – it can be replaced in foods without changing taste or cost. There is no need for industrially produced TFA in the food supply – suitable healthier alternatives already exist and are being used in many products.

Over time, the food industry has become increasingly receptive to replacing TFA in their products with healthier oils and fats and have made progress in reducing TFA levels in many foods. However, high levels of TFA still remain in the food supply of many countries, including Pakistan indicating a need for regulatory approaches to TFA elimination. So far 28 countries (most of which are high-income countries) have implemented mandatory TFA limits covering approximately 31% (2.4 billion) of the global population. However, over two-thirds of the global population are still not covered by mandatory TFA limits.

What are Trans-Fatty Acids?
Trans-fatty acids (TFAs) are unsaturated fats found in foods obtained from ruminants, such as dairy products and meat, and in industrially produced partially hydrogenated oils (PHOs). Industrially-produced TFA are the predominant source of dietary TFAs in most populations. Research from recent decades has confirmed the link between high intake of industrially-produced TFAs (above 0.5% of total energy intake) and non-communicable diseases (NCDs), including increased risk of coronary heart disease (CHD), as well as infertility, endometriosis, gallstones, Alzheimer’s disease, diabetes and cancers. Globally, an estimated 537,000 deaths in 2010 were attributed to increased intake of TFAs, including 7.7% of coronary heart disease mortality. 1 TFA increases levels of LDL (unhealthy) cholesterol and decreases levels of HDL (healthy) cholesterol. Pakistan is particularly a high consumer of TFAs; among the countries of WHO’s EMRO region, TFA consumption in Pakistan was ranked highest after Egypt, at nearly 6% of energy intake.2 This is considerably higher than the WHO recommendation that total TFA intake be limited to less than 1% of total energy intake, which translates to less than 2.2 g/day in a 2,000-calorie diet. Pakistan’s high TFA consumption is directly linked to Pakistan’s high rate of mortality due to heart disease (29.1% of deaths). 3

The elimination of TFAs from diet is considered as a straightforward public health intervention to reduce the risk of NCDs. The WHO has called for the elimination of trans-fats from the food supply and the adoption of national policies to eliminate PHOs and replace them with polyunsaturated fatty acids. By decreasing the risk of CHD events and mortality, TFA elimination will help reduce premature death from NCDs, one of the health targets (Goal 3.4) of the United Nations Sustainable Development Goals (SDGs). It will also contribute to the creation of an enabling food environment which promotes healthy diet, and achieve the diet-related

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NCD targets committed to at the 2nd International Conference on Nutrition and the Decade of Action on Nutrition (2016 - 2025).

Elimination of industrially-produced TFAs is eminently achievable and large reductions in trans-fat intake at the population level have been achieved in high and middle income countries through a combination of policies, including: mandatory limits on TFA levels in food products through legislation or regulation, local and national bans on PHOs, mandating trans-fat labelling on food products, agricultural policies and research to promote the supply and use of healthier oils, public education campaigns, and collaboration between industry, government and academia to reformulate products with high levels of TFAs.

What foods contain TFA in Pakistan?
A review of research on TFA content in industrially-produced foods in Pakistan demonstrates that the major contributors to trans-fat consumption in Pakistan are Vanaspati ghee, margarines and fat spreads; and bakery shortening (See Table 1).

<table>
<thead>
<tr>
<th>Source</th>
<th>Average TFA range (%)</th>
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</thead>
<tbody>
<tr>
<td>Vanaspati ghee</td>
<td>14.2% - 34.3%</td>
</tr>
<tr>
<td>Margarines</td>
<td>11.5% - 34.8%</td>
</tr>
<tr>
<td>Shortenings</td>
<td>7.3% - 34.8%</td>
</tr>
</tbody>
</table>

Table 1: Main dietary sources of TFA in Pakistan

As these products are widely used for cooking and baking purposes in Pakistan, this leads to high TFA levels in multiple food items common in the Pakistani diet, ranging from parathas, biscuits, chocolates, pastries, breakfast foods, french fries, and breakfast cereals.

The bulk of trans-fat sources in Pakistan are locally produced (about 98%), as the main PHO responsible for TFA, Vanaspati ghee (which accounts for over 60% of total fat trade) is manufactured locally. Knowledge about TFAs in the Pakistani diet is relatively new and government regulators have only recently begun to respond to the challenge.

Existing regulations for TFA in Pakistan
Pakistan’s food regulation system has been decentralized following the 18th constitutional amendment, with provincial food authorities having developed their own regulations in addition to those by the federal Standards and Quality Control Authority (PSQCA). However, enforcement capacity varies across the country, with Punjab having the most well-developed regulatory system and Balochistan having the most limited capacity. Currently, varying standards are in place for trans-fat regulations across the federal and provincial levels. The Punjab Food Authority (PFA) regulations are by far the most comprehensive, target all the main food products associated with TFAs and have established TFA limits within (and even lower than) the limits prescribed by WHO. The PFA has also taken the step of banning Vanaspati in the province, with the industry given until July 2020 to comply with the ban. However, most other provincial standards in place do not target all sources of TFAs and do not meet WHO recommended TFA limits. In case of PSQCA standards (also adopted by Sindh), no standards exist for food articles other than Vanaspati (currently at 5%, higher than the WHO-recommended limit). The KP Food Authority has TFA limits of 5% for Vanaspati and bakery shortening. The Sindh Food Authority (SFA) has recently added TFA limits for Vanaspati ghee (of 5%); the newly-constituted scientific panel for the authority is currently considering including TFA limits for margarines and bakery fats. Currently, there are no penalties specific to non-compliance with TFA regulations in any of the provinces.

Punjab
- Ban on Vanaspati ghee (a partially hydrogenated oil) to come in effect from July 2020
- TFA limit of 0.5% of total fat acids for Vanaspati (before 2017: shortening, margarine and spread, and 3% for infant formula)
- Labelling requirements (TFA % mentioned on label) for cream analogues, margarine, infant formulae and dried ice cream

Khyber Pakhtunkhwa
- TFA limit of 10% for Vanaspati ghee and 5% after three years
- TFA limit of 5% for shortening, table margarine and 3% for infant formulae
- Labelling requirements (TFA % mentioned on label) for cream analogues, table margarine, infant formulae and dried ice cream

Sindh
- TFA limit of 5% on Vanaspati ghee
- Balochistan
  - No TFA-specific regulations
- Federal (PSQCA)
  - TFA limit of 5% on Vanaspati ghee

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What needs to be done to eliminate TFA?
Pakistan’s high TFA intake levels are a major contributor to non-communicable diseases (NCDs) in the country and are inflicting a considerable public health, social and economic costs to the country, without any conceivable benefit. TFAs can and should be replaced with healthier fat and oil substitutes in the Pakistani diet. The WHO’s REPLACE Action Package provides a six-step roadmap for countries to implement actions for the elimination of industrially-produced TFAs in foods, fats and oils. REPLACE stands for:

REVIEw dietary sources of industrially-produced trans fats and the landscape for required policy change

PROMOTE the replacement of industrially-produced trans fats with healthier fats and oils

LEGISLATE or enact regulatory actions to eliminate industrially-produced trans fats

ASSESS and monitor trans-fat content in the food supply and changes in trans-fat consumption in the population

CREATE awareness of the negative health impact of TFA among policy-makers, producers, suppliers, and the public

ENFORCE compliance with policies and regulations
In light of the REPLACE roadmap, the following are suggestions, based on the evidence on TFAs in Pakistan, developed in consultation with relevant stakeholders at the federal and provincial level:

Harmonize TFA limits and PHO bans with penalties across the country
To enable effective regulatory action to eliminate TFAs and end loop-holes that enable non-compliance, regulations for TFA need to be harmonized across provincial and federal jurisdictions. This can be done by developing consensus among the scientific panels of the provincial and federal food regulation authorities and enacting TFA regulations.

For this purpose, firstly, KP, Sindh, Balochistan, and PSQCA should enact trans-fat limits of less than 1g of total fats and oils in all foods associated with high TFAs (including margarines, fats, shortening, spreads, cream analogues, infant formulae and dried ice cream), as Punjab has done. Secondly, Punjab’s ban on Vanaspati, which is the main source of TFAs in Pakistan, needs to be expanded to other provinces and at the federal level for it to be effective. This will enable food authorities to place Vanaspati into the list of harmful food items in Khyber Pakhtunkhwa, Sindh, Balochistan and at the federal level, and institute a time frame for implementation. However, the imposition of such a ban will have to be complemented with efforts at developing and popularizing replacements for Vanaspati, and pushing industry to reformulate their products.

For all TFA regulations, effective penalties for non-compliance will also have to be specified by food authorities, including fines for first time violations and imprisonment for multiple violations.

Enact uniform and mandatory nutrition labelling
Pakistan needs to uniformly adopt and mandate nutrition labelling for food products across the country, which includes nutrition facts (including percentage of TFAs, salt and sugar). Labelling regulations must also specify the conditions for a product to be termed ‘trans-fat free’: to contain <0.2 g of trans-fats and also be low in saturated fat (i.e., contain <2 g of saturated and trans-fat combined (per reference amount and per serving of stated size). For margarine, labelling regulations must include stating that it is not butter.

Build assessment capacity of provincial food authorities:
Currently, assessment is a key capacity gap among provincial regulators as none of the authorities have adequate laboratory capacity to assess TFA content in food products. KP, Sindh and Balochistan are still in the process of establishing food laboratories while Punjab has one functional but over-stretched laboratory. Assessment needs in all provinces are currently being fulfilled with the help of third-party public and private sector laboratories. Enabling an effective environment will require both the requisite laboratory and technical human resource capacity, for which resources will have to be raised. Part of these can be allocated through provincial budgets while funds can also be raised from industries through corporate social responsibility (CSR) initiatives. As laboratory capacity is developed, federal and provincial governments can also recognize 3 laboratories to examine samples, for which periodic assessments can be scheduled.

Strengthen monitoring and enforcement capacity of provincial food authorities
In order for regulations to have the desired effect will require provincial food authorities to build enforcement capacity through recruitment and capacity-building of food inspectors and officials (particularly in Sindh, Balochistan and KP). Responsibilities for assessing TFA levels and imposing penalties for violation should also be added to the rules of business for provincial food authority inspectors and other officials.

Improve TFA awareness among policymakers, producers, retailers and the public
Efforts to eliminate TFAs from the Pakistani diet are currently hampered by the fact that public knowledge about its health consequences are minimal and some of the main sources of TFAs – particularly Vanaspati ghee – are viewed by the public as healthy and nutritious. Thus, a communication strategy to increase overall public knowledge about the dangers of high TFA consumption, the main dietary sources of TFAs and its replacements is essential. For public and consumer awareness, electronic and social media should be engaged with simple messages
about health outcomes associated with TFAs, reading nutrition labels and alternatives to PHOs. Involving consumer groups and civil society is key, while producers could also be encouraged to highlight the importance of TFA-free products in their own marketing. This also requires concerted advocacy with key decision makers and policymakers to support the TFA elimination process. Retailers and small producers also need to be sensitized to source and produce healthier alternatives. Public and media figures should also be engaged and cultivated as champions for TFA elimination and healthier eating.

**Develop healthier replacements for PHOs:**

To enable a shift from consumption of trans fats to polyunsaturated (preferably) or mono-unsaturated fats, replacements need to be developed for PHOs like Vanaspati. For this purpose, multi-stakeholder research needs to be undertaken involving the government (such as the Ministry of National Health Services and Ministry of Science and Technology), producers and academia to enable a transition in production to healthier fats and oils. Industry stakeholders should be engaged to financially support the research and capacitate their own staff. This research must also be undertaken in tandem with research on TFA consumption to enable targeted interventions for different population groups.

**Enable stewardship and multi-stakeholder coordination**

Most successful strategies of TFA reduction around the world have relied on government-formed multi-stakeholder task forces or coordination committees that have steered the process forward. This is particularly important in the case of Pakistan, a country with multiple overlapping regulatory frameworks that can often be in contradiction with each other and taken advantage of by producers seeking to circumvent stricter regulations. Therefore, the formation of a TFA advisory group, committee or working group with representation from all provincial authorities and other federal institutions (such as the Ministry of Science and Technology and Pakistan Council for Scientific and Industrial Research), and stewardship from a federal and public health institutions like the MoNHSRC and WHO, is essential. This forum should be legally empowered to approve a national action plan and provide oversight, with provisions for both technical decision-making and performance review, and should include representatives from academia, research institutions, civil society, and if and when the time is appropriate, representatives of the food industry, to ensure TFA levels can be sustainably reduced and replaced.

**Recommendations:**

**Provincial food authorities and PSQCA should:**

1. Pass orders through their scientific panels to impose uniform and mandatory limits for TFAs to <1g of total fat in all food vectors associated with high TFAs.

2. Extend the ban on Vanaspati to all provinces and territories

3. Finalize and institute uniform nutrition labelling that mentions proportions of TFAs, salt and sugar

4. Institute penalties for non-compliance to TFA regulations

5. Update rules of business and capacities of food inspectors for TFA monitoring.

6. Engage with traders, retailer associations and chambers of commerce to enable alternative sourcing.

**The Ministry of National Health Services, Regulations and Coordination should:**

1. Develop, with provincial health departments, a communication strategy to improve public awareness of TFAs

2. Engage Ministry of Information for mass media outreach about TFAs and NCDs

3. Commission and support research on TFA population level intake

4. Convene and steward a technical advisory group to develop an action plan and oversee TFA elimination and replacement

**Provincial and federal governments should:**

Allocate budgets for building assessment and monitoring capacity of provincial food authorities.

**Ministry of Science and Technology (PSQCA & PCSIR) should:**

Undertake research in partnership with producers and research institutions to develop healthier alternatives to PHOs.

**Parliamentarians and elected lawmakers should:**

1. Strengthen, fund and capacitate provincial food authorities to implement regulations.

2. Act as champions for improved public health and ensure industry lobbying is not able to weaken regulations to the detriment of public health

**Bilateral and multilateral donors should:**

1. Support research for TFA replacement and capacity building for replacement for small producers.

**Civil society, nutrition and consumer organizations should:**

1. Support advocacy efforts to monitor and advocate for improved regulation

2. Support research and communication efforts to improve awareness on TFA and other dietary risk factors.