

# The evidence of politics in trans-fatty acid regulation in Mexico

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## Abstract

According to the World Health Organization, coronary heart disease (CHD)-caused deaths accounted for one-fifth of the total deaths in Mexico in 2017. Researches done in the past have confirmed the association between dietary trans-fatty acids (TFA) and CHD. Dietary TFA are mostly derived from industrial-hydrogenated oils, milk products, and meat fats. This paper is a build on of a policy paper done on international policies for TFA in low-to-middle income countries, using Mexico as the case study. This write up, however, aims to critically analyse the TFA regulation policy process in Mexico, evaluating the strength of evidence proposed and identifying the barriers preventing the usage of the evidence for a TFA regulation policy implementation. Although evidence abounds for TFA regulation policy, lack of effective collaboration and communication among the major actors (researchers, policy-makers, and consumers) in Mexico remains a major setback in its implementation.

## Resumen

Según la Organización Mundial de la Salud, las muertes causadas por enfermedades coronarias (EC) representaron una quinta parte del total de muertes en México en 2017. Investigaciones realizadas en el pasado han confirmado la asociación entre los ácidos grasos trans (AGT) en la dieta y las EC. Los AGT de la dieta se derivan principalmente de aceites hidrogenados industriales, productos lácteos y grasas cárnicas. Este trabajo tiene como base un documento de política pública acerca de las políticas internacionales para AGT en países de ingresos bajos a medianos, utilizando a México como estudio de caso. Sin embargo, esta reelaboración tiene como objetivo analizar críticamente el proceso de políticas de regulación de AGT en México, mediante la evaluación de la solidez de la evidencia propuesta y la identificación de las barreras que impiden el uso de la misma para la implementación de una política de regulación de AGT. Aunque abundan las evidencias para fundamentar políticas de regulación de los AGT, la falta de colaboración y comunicación efectivas entre los principales actores (investigadores, formuladores de políticas y consumidores) en México sigue siendo un gran obstáculo en su implementación.

The concept of evidence to update policy is not new. In ancient times, Aristotle argued that the various forms of knowledge should be integrated for rulemaking. This would ideally involve a combination of scientific knowledge, pragmatic knowledge and value-led knowledge.<sup>1,2</sup> Evidence-based approaches in health can

be described as health policy and health care delivery driven by systematically collected proof on the effects of health-related interventions from the social and health sciences.<sup>3</sup> A cycle for a successful policy includes: problem identification or labelling, policy formulation, policy implementation, and assessment. In the assessment of

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policy outcomes, scientific evidence should play an important role.<sup>4-7</sup> This paper aims to critically analyse the trans fatty acids (TFA) regulation policy process in Mexico, evaluating the strength of evidence proposed and identifying the barriers preventing the usage of the evidence for a TFA regulation policy implementation. The major case-study used in this work will be drawn from Carolina Pérez-Ferrer and colleagues.<sup>8</sup>

### Problem statement

Dietary TFA are mostly derived from industrial-hydrogenated oils, milk products and meat fats.<sup>3</sup> The human consumption measurements ranges from eating habits, not excluding access to dietary TFA, and consumption measurement tool and methods. Several studies, including the Framingham Heart Study, have confirmed the association of dietary TFA and coronary heart disease (CHD), which in addition to stroke make up the majority of cardiovascular diseases<sup>9</sup> but have been steadily declining in developed countries since the past decade.<sup>10</sup> However, according to the World Health Organization (WHO), CHD caused deaths were estimated to be 17.46% of the total deaths in Mexico in 2017.<sup>11</sup>

Denmark was the first country to be successful in the TFA regulation policy. Danish government earlier recognized that the health of its citizens was menaced by the high intake of TFA and acted on it by authorizing an enormous reduction of TFA, limiting them to no more than 2g per 100g in a dietary product. Prior to the TFA policy success, the average Danish person ingested about 30g of TFA in a day by consuming three dietary products. Figure 1 illustrates the case for Mexico with a Hall model (legitimacy, feasibility, and support).<sup>8</sup>

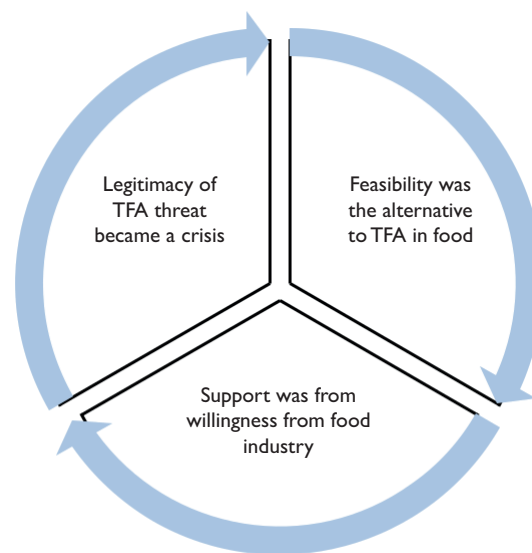
The practicality of the Hall model in health policy lies strongly on the foundation of legitimacy, feasibility and support. Inherent in legitimacy is the belief by governments that they are responsible for the general wellbeing and health of their populace, thereby having both the societal and the legal mandate to formulate policies tailored for such purposes.<sup>12</sup> This served as the basis for a potential TFA policy in Mexico, especially with the high burden of CHD-related deaths in this country, which are a looming threat on the citizenry, and which the government found to be a national crisis. In addressing feasibility, Hall brings out the potential for the implementation of a health policy, tackling issues of availability of resources (skilled human resources, capital and infrastructure) and the limitations that exist, exploring the alternatives available.

### Can TFA regulation policy be implemented in Mexico?

Despite the different type of interventions employed, TFA policies have been associated with a reduction of TFA levels in food supplies, especially in high income countries. Significant progress has been recorded with labelling regulations in countries such as Canada and the United States of America. Also, it has been established that national and local bans have been most effective in implementing the policies.<sup>13</sup>

Bibliography shows that in Latin America, five countries, namely Venezuela, Colombia, Brazil, Mexico and Costa Rica have implemented similar types of TFA policies between the period of 2009 to 2015. The initiation of policies has differed between countries, but has largely been facilitated by Pan American Health Organization (PAHO), WHO and other actors such as industry players made up of major food companies (eg. McDonalds, Pepsi, Nestlé, Kraft Foods, among many others) and industry associations such as the Brazilian Association of Food Industries (ABIA).<sup>14-16</sup>

The impact of TFA regulation and reduction has yield results worth emulating in low / middle-income countries



TFA: Trans fatty acids

Source: drawn by author with reference to Carolina Perez-Ferrer and colleagues.<sup>8</sup>

**FIGURE 1. HALL MODEL (LEGITIMACY, FEASIBILITY, AND SUPPORT) OF TFA REGULATION IN MEXICO**

(LMICs). A deliberate policy for the mandatory TFA limits in restaurants in New York City over a four years period resulted in a 4.5% reduction in CVD mortality rates, while similarly causing a greater decrease in strokes for younger age groups.<sup>17</sup> Ideally, TFA regulation should be a huge concern to governments of developing countries. However, governments of developing countries have failed to recognize high TFA consumption as a threat to the health of their citizens. Nevertheless, this sometimes, does not absolutely mean the governance of such a country is weak, as health policy implementation is not an easy but a complex process. This section will scientifically answer the question of “why” TFA implementation policy is difficult to implement in developing countries. And, is there solid evidence of TFA considered as a public health threat in Mexico? What are the scientifically supported solutions to the problem? Is there a gap in evidence communication between researchers and policy-makers in Mexico? Is the evidence not convincing enough for policy-makers to accept? Regardless, there is evidence that more than half of the population of the developing world do not have access to basic healthcare and coverage. This becomes even more detrimental in that at least half of the world does not have access to essential health coverage and a high percentage of people is falling into poverty due to financial insufficiency. They are also at a higher risk of CHD by eating the affordable foods, which are usually high in TFA content.

### Walt and Gilson policy process triangle

This study uses the Walt and Gilson framework to critically analyse the TFA regulation policy process using

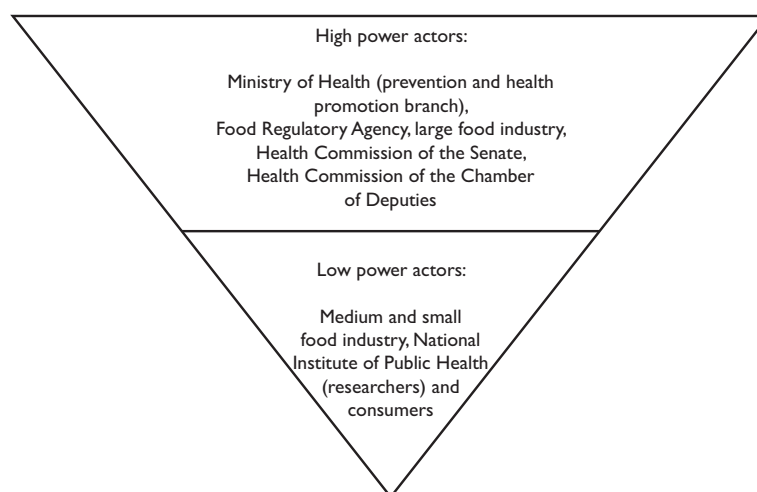
the Mexican policy context as a case study to explore contextual issues influencing implementation of TFA regulation in low or middle-income countries (figure 2).<sup>8</sup> Although the public health context seemed to be appropriate to promote TFA policy, the issue is not on the political agenda due to its lack of legitimacy and support as a health or regulatory issue. The food industry and government resist the need for regulation, and there is no organized health or consumer lobby to counter this. This is likely to be the case in other middle- and low-income countries, where consumer awareness is low and expectations from government, and industry stakeholders are limited.

### Robert and colleagues 2004 Theory of stakeholder/actors analysis

Policy researchers have used many theories to explain the significant role actors play in the adoption of a policy.

1. Identifying stakeholder and actors who have an influential or decisive role in the TFA regulation in Mexico (figure 3).
2. Assessing their political resources and power.
3. Assessing interests, position and commitment.

The huge food industries in Mexico claimed TFA were high on their agenda and claimed regulating TFA was already an internal policy. The role of various governmental ministries and agencies are interlinked to ensure an effective policy implementation on TFA. The Ministry of Health’s role in showcasing results of



Source: drawn by author with reference to Carolina Perez-Ferrer and colleagues.<sup>8</sup>

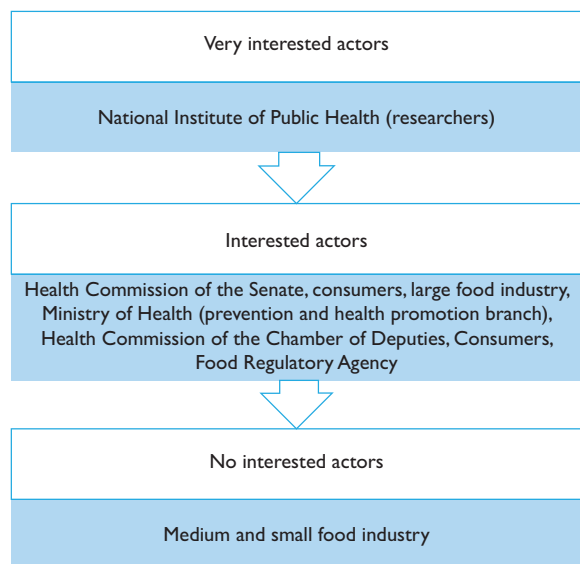
**FIGURE 2. GROUPING OF ACTORS AND STAKEHOLDER POWER**

TFA's effect on the cardiovascular health of the citizens is essential, as well as the Ministry of Public Education's role in sensitizing the public on the need to cut down on foods rich in TFA. However, these ministries do not work in isolation, and would need further inputs from other arms of government, be it the executive, legislature and industry players in pursuing the TFA agenda.<sup>18,19</sup>

### The major weaknesses in the TFA evidence-based policy in Mexico

In current global health policy discussions, there has been increasing emphasis on the importance of promoting the use of health data and research findings to inform policy formulation and implementation. Particular concerns have been expressed about the need for a "culture of evidence" in LMICs, where "the pressure to extract the most out of funds is particularly great, as the gap between the resources available and those that are needed to address the burden of preventable diseases is larger than elsewhere".<sup>20</sup> In this regard, evidence-based policy is an approach that "enlightens people to make well informed decisions about policies, programs and projects by putting the best available evidence from research at the heart of policy development and implementation".<sup>1</sup>

Evidence from research can enhance policy development by identifying new issues for the policy agenda,



TFA: Trans fatty acids

Source: Drawn by author with reference to Carolina Perez-Ferrer and colleagues.<sup>8</sup>

**FIGURE 3. GROUPING OF ACTORS AND STAKEHOLDER INTEREST IN THE TFA POLICY IN MEXICO**

informing decisions about policy content and direction, or by evaluating the impact of policy.<sup>21-24</sup> Although evidence from research is only one of the many factors considered in policy development, there is an increasing recognition of its potential value. However, it is evident that many opportunities to use evidence from research in policy are currently missed<sup>25-27</sup> with some authors suggesting that the consideration of evidence by policy makers is haphazardous at best.<sup>28-30</sup> There is an increasing recognition that strong and effective health systems that are evidence-informed in their operations are necessary to achieve continued improvement in health outcomes in an efficient and equitable manner.<sup>31,32</sup>

The incorporation of relevant high-quality research evidence into the health policy process has been outlined as a key strategy for improving health systems worldwide.<sup>33,34</sup> Thus, evidence-informed decision making has been promoted to aid policy development in most countries.<sup>35</sup> Evidence has been described in the literature as "what constitutes actual or asserted facts planned for use in support of a conclusion".<sup>36</sup> Evidence from research can improve the health policy process, by identifying new issues for the policy agenda, informing decisions about policy content and direction, and evaluating the impact of policy.<sup>22,23,37,38</sup> While some authors regard evidence as mostly scientifically-driven facts, others argue that evidence can be formal (such as published research or program monitoring and evaluation) or informal (such as personal experiences, received wisdom and opinions) depending on its process of generation.<sup>39-41</sup>

### A nice simple world and the engineering model

Before the formulation of the engineering model, a nice simple world model was the general belief of ways of solving societal problems which describes the relationship between researchers and policy-makers. The engineering model explains that policymakers are known to be the identifier of problems while the role of a researcher is the delivery of a solution and this should lead to an effective policy change. The engineering relates with the top-down process which has shown to be a direct, powerful and effective way of communication. This model explains the crisscrossing and intricate activities like lobbying, and debates from research to evidence-based policy.

There has been advancement in the Mexican approach to tackling cardiovascular risk through the reduction of TFA in food products. A situational analysis done by various stakeholders from consumers, government and industry players revealed that the adoption of the

REPLACE-2018 document of the PAHO/WHO was critical to a successful implementation of the TFA policy. This was compared to case studies in similar countries and with similar contextual factors.<sup>14,42,43</sup>

Based on the commitment of various stakeholders for the implementation of such a policy, it is recommended that regular stakeholder evaluations are done as has been started in order to prevent a nosediving of the commitment. The government, on the other hand, should grant tax exemptions to industry players that promote healthier foods as a way to encourage their consumption, without ignoring the enormous benefits of public health education on these issues.

In the case study under review, the authors seek to investigate barriers and opportunities that exist for TFA policy development in low- and middle-income countries, through a literature review of international TFA policy and stakeholder analysis. Previous national policy responses have mostly been implemented in developed countries. Only three countries have regulated the TFA content of food. Common factors for successful TFA reduction include increased consumer and political awareness of the health impacts of TFA and the need for champion consumer organizations.

### Elective affinity model

In today's social and political science, elective affinity is an engaging relationship identified with a reciprocal attraction and convergence of entities of two different cultural, religious, political and economic backgrounds. This model answers the question: why a community effortlessly accepts and supports research insights.

The REPLACE-2018 policy document of PAHO/WHO has been accepted by Mexico as part of its strategy for the implementation of TFA since 2019 during its stakeholders meeting for evaluation. This new approach seeks to review dietary sources of TFA, promote its replacement with alternatives, legislate actions against it, assess TFA contents in foods, create awareness and enforce compliance to the policies in-country. The Mexican situation still remains at the level of commitment from the stakeholders, but there is no governmental legislation about the subject. This provides a lackluster approach to implementation, since the formulation of a legislative instrument to tackle the problem would be specifically covering relevant portions of standards, labelling and production of TFA-rich foods. However, this could only be achievable when stakeholder involvement is broadened to involve enough consumer groups and cover all industry production organizations.<sup>42</sup>

### Conclusion

CHD is a leading cause of death in developing nations including Mexico. Epidemiology research and the borrowed lessons from Denmark have convincingly shown that CHD-caused mortality rates can be dramatically reduced by a reduction in TFA quantities in dietary products. International organizations like the WHO and the Food and Agriculture Organization of the United Nations (FAO) are absent and need to play a role in the international context of the TFA regulation policy process in Mexico. No doubt, the evidence for the need for TFA regulation policy is true but not clear-cut in Mexico as there is a huge communication gap between the major actors (researchers, policy makers and consumers). In addition, there is a need to form lobbies for health policy making in Mexico. Furthermore, even though the food industry acknowledged TFA as a threat, there is a big challenge for their business as there is no provision for an alternative to TFA in Mexico.

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*Declaration of conflict of interests.* The authors declare that they have no conflict of interests.

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