Obesity in Mexico: rapid epidemiological transition and food industry interference in health policies

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Obesity is the leading public health concern in Mexico and has been on the rise for the past 30 years. Its evolution has been illustrated by four nationally representative health and nutrition surveys (2000, 2006, 2012, 2018). During this period, adult obesity increased 42·2%, after adjusting for population change.[1] In the latest national survey (2018), 36·1% of adults had obesity (BMI ≥30 kg/m^2), with a substantially higher prevalence in women than in men (40·2% *vs* 30·5%).[1] Results also showed only 23·5% of the adult population had a healthy weight (BMI ≤25 kg/m^2), with even less adults in the 40–49 age group (15·4%). Furthermore, central obesity (≥94 cm in men or ≥80 cm in women) was present in 81·6% of all adults (>90% for adults aged 50–70 years) and morbid obesity increased by 96·5% from 2000 to 2018 (1·8% to 3·6%).[1] Currently, obesity prevalence in adults in the poorest regions of Mexico is similar to that of high-income areas. These regions have had the highest relative increase in mortality due to non-communicable diseases (NCDs) during past decades and continue to struggle with undernutrition and poor sanitation. Today, the main causes of mortality are associated with obesity, including cardiovascular diseases (20·1%), type 2 diabetes (15·2%), malignant tumours (10·8%), and liver diseases (7·6%) (Global Health Observatory, WHO 2020). In 2013, dietary risks accounted for more than 10% of disability adjusted life-years, with high fasting plasma glucose and high body mass index as the leading risk factors of disease.[2]

Among the main drivers causing this shift in obesity prevalence is a rapid epidemiological transition. Great reductions have been observed in diarrhoeal diseases and undernutrition, mostly due to maternal and childcare interventions and improvements in water access and sanitation. At the same time, the country's food environment has been transformed as a result of economic growth and free trade agreements. In the past 40 years, the Mexican diet has shifted from mainly fresh and unprocessed foods to ultra-processed products high in sugar, salt, and fat. This transformation, along with aggressive marketing techniques by the food industry, has also led Mexico to become one of the countries with the lowest breastfeeding rates in the world. Today, 23·1% of the Mexican population's total dietary energy comes from ultra-processed food products.[3] WHO recommends a maximum of 5–10% of total energy per day from free sugars—in Mexico, over two thirds of the population exceed this. The country is also among the highest consumers of sugary beverages globally; they represent approximately 10% of total daily energy intake in adults and children and make up 70% of total added sugar in the diet.[4] Other significant drivers of this rapid obesity transition include insufficient investment in infrastructure for clean, drinkable water and weak regulatory measures.

The response to this epidemic has been poor—obesity was not included in the national health plan until 2010. However, attempts to develop prevention policies faced immediate opposition from multinational food companies. Even basic efforts, such as healthy hydration recommendations were never fully implemented due to strong pressure from the beverage industry. Junk food and sugary drinks were banned from schools, albeit the guidelines did not include penalties for non-compliance, which has led to lax implementation. Moreover, promotion of breastfeeding practices has been ineffective in part due to poor compliance with the WHO code for marketing breast-milk substitutes by transnational producers of infant formulas.[5] In 2014, as a result of an economic crisis, the government launched an excise tax on sugary beverages (10%) and junk food (8%). Evaluations showed sustained reductions in purchases in the following years.[6] As a response, food industry groups pressured the government to create a National Observatory for NCD prevention to discuss and decide further obesity prevention strategies by consensus. In 2019, this observatory was shut down by the new government and in January 2020, congress approved a front-of-pack labeling system based on warning labels and marketing regulations from Chile. These labels, which were effective at reducing the purchase of unhealthy products in Chile,[7] and showed high understanding among diverse groups in Mexico, received unparalleled social support. Implementation of this policy is expected to initiate in October 2020,[8] although attempts from the food industry to delay it persist.

Mexico is one of the most unequal countries in the world; although the GDP per capita is now above the regional average, 48·8% of the population is poor and cannot afford the basic food basket and basic services. It is expected that, as result of COVID-19, the poverty rate will increase to at least 56% of the population (equivalent to an additional 6·1–10 million people). On the other hand, health investment has decreased over the past 10 years and is approximately 5·52% of GDP. The national health budget represents only 2·3% of the total federal budget and the funding allocated to prevention and control of obesity and NCDs has never reached 1% of that.[9] To tackle this problem, commitment

For the **Global Health Observatory** see https://www.who.int/nmh/countries/mex_en.pdf?ua=1

For the **predicted poverty rate in Mexico** see https://www.coneval.org.mx/Evaluacion/IEPSM/Documents/Politica_Social_COVID-19.pdf

from government authorities and the legislative branch to increase investment in health is essential. Health professionals and academia need to effectively communicate the benefits of allocating resources not only to prevent disease, but also to achieve adequate economic development.

There are many health-care challenges in Mexico that require a coordinated health sector response. For instance, primary health care in Mexico has traditionally been weak. In contrast with with high-income countries, management and control of obesity, high blood pressure, and blood sugar is often very poor for those with a previous diagnosis. The protocols for obesity and NCD treatments are based on legal regulations that often take more than 10 years to be reviewed and are frequently subject to conflicts of interest and bureaucracy. In contrast, other countries follow guidelines that are regularly updated and created by academic bodies. The training of physicians in obesity management, nutrition, and physical activity counseling is scarce, and registered dieticians are not considered essential in public primary health-care clinics. Multidisciplinary teams to support the population with these conditions are uncommon, particularly in low-income areas. At the same time, as the number of patients with the most severe forms of obesity is rapidly increasing, so too is the number of surgical procedures (bariatric surgeries). However, these procedures lack systematically reported follow-up guidelines and proper alignment with international standards.

Lessons from Mexico demonstrate that taxing unhealthy food products, regulating the school environment, and adopting front-of-pack warning labels contribute to obesity prevention, but face strong opposition. Other necessary actions include restricting marketing of unhealthy products to children and adolescents, nutrition counselling and education, improving infrastructure to increase access to clean, drinkable water, and developing a food system-based approach to promote healthy diets. Mechanisms to identify, prevent, and manage conflicts of interest in health education, research, and policy must be put in place to avoid industry interference. Specific programs that focus on health promotion and on improving primary care practices to help to decrease excess mortality must be prioritised by the government.[10]

Given the amount of resources needed to tackle obesity and its associated comorbidities—which many nations will not be able to afford, particularly in the middle of a world recession—taxes to unhealthy products and regulatory measures are a powerful tool to provide governments with revenue, while decreasing consumption of harmful products. Ideally, this revenue should be ear-marked to fund investments in health, education, and proper infrastructure. It is important to recognise that effective obesity prevention and control requires multisectoral coordination with a strong involvement of civil society organisations and academia to support government efforts.

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For **primary health care in Mexico** see https://www.insp.mx/resources/images/stories/2018/Docs/180919_Salud_atencion_primaria_11septiembre.pdf