

WG2. Food Security
22-24 August 2013. San José, Costa Rica

The Current Consumption Model and its Impact on Food Security

Xaviera Cabada
Alejandro Calvillo

Introduction

"Food security exists when all people, at all times, have physical and economic access to sufficient safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life." Food security is a situation where all people, permanently and timely, have physical, economic and social access to sufficient and quality food that is suitable for biological utilization and consumption, and which ensures a feeling of general wellbeing that contributes to their development (FAO, 2012) [free translation].

There are four dimensions of food security: Suitable *availability* of and access to food; *economic and physical access*, which involves that people should have access to the resources necessary to buy suitable, nutritious food; *biological utilization* of food (i.e., that it is quality food), and lastly, *stability of supply*, which means that individuals should in no case face the risk of lack of access as a result of sudden crises (CONEVAL, 2010).

All human beings have the right to enjoy full food security, but this is not the case in most countries, however.

One of the factors preventing this has been the lack of effective public policies on the matter. Today, overweight, obesity and diabetes are epidemics in both developed and developing nations (ENSANUT, 2012). The situation is even more serious in developing countries, where obesity is coupled with malnutrition, and the diseases deriving from both.

The existence of highly processed foods has favoured an "obesogenic environment", i.e. one that propitiates obesity and the diseases resulting from it. This is the intake of energy-dense, nutrient poor foods, which results in serious health problems and impairs the quality of life of our population.

Worsening Dietary Habits and its Implications on Health

In the past few decades, the world has undergone a deep transition in terms of dietary habits that is generating serious impacts on health. The promotion and consumption of sugar-, fat- and salt-rich foods and beverages has caused a dramatic increase in obesity, diabetes and cardiovascular disease (Rivera et al., 2002).

These diseases, which in the past were only to be found in urban areas, are now widespread in rural areas as well. Here, other problems such as anemia and malnutrition, which are also a result of the decline in dietary habits, may also be found.

Mexico has been colonized by different processed foods and beverages that have contributed to the onset of obesity and malnutrition (Ludwig et al., 2001). This is the case with Coca Cola, which through marketing strategies has managed to position Mexico amongst the largest per-capita consumers, with

12% of global sales. The traditional Mexican diet, consisting of beans, corn, rice, oatmeal, milk, fruits and vegetables, has been replaced by products that are detrimental to human health (Ávila-Curiel et al., 2008).

Mexico is one of the Latin American countries with the highest child obesity, overweight and malnutrition rate [it has been recognized that around 25% of Latin American children suffer from malnutrition] (ENAL 1996, ENSANUT, 2006; WHO, 2009). This is causing serious health problems in children and adolescents, who are bound to become *sick* adults that will suffer from some form of ailment resulting from poor eating habits. The percentage of children affected by chronic malnutrition as a result of extended undernourishment or of the intermittent loss of nutrients and whose size has been affected (perhaps irreversibly), is alarmingly high.

Several studies have noted that children suffering from malnutrition face a higher risk of this becoming a chronic problem, and of suffering obesity or life-long sequelae. This is a consequence of our genetic condition: Any deficiency during childhood causes our body to “program” itself to reduce the calorie output, while “sparing” energy. This is a survival mechanism (Torún & Viteri, 2002; Ávila-Curiel et al., 2008).

Nutritional changes translate into an impact on health; obesity has grown by 40% in only 7 years among children aged 5-11, while the average body circumference of women in the child-bearing age has increased 10 cm (3.94 in) over that same period (1999-2006). In the +20 population, 71.9% of women (approximately 24,910,507) and 66.7% of men (around 16,231,820) are obese or overweight. One out of three teenage boys and girls are also affected by either one or the other condition. Concurrently, diabetes has grown at a rate of 3% per annum. According to the Mexican Public Health Institute, the cost for the health care sector of providing treatment to diabetes patients is above 3,000 Mexican pesos. The Mexican Commission of Macroeconomics and Health notes that indirect costs are 6.6 times higher than the cost of treatment, i.e., MXN 20 billion (ENSANUT, 2006).

Dietary habit changes consisting in the replacement of traditional foods by processed foods is detrimental in many respects: At a physical level, because it affects our health (Bremer & Lustig, 2012); at an emotional level, since the presence of disease translates into depression or low self-esteem; at an environmental level, because of the large amount of wastes being generated; and at an economic level, as the amount expended to buy these foods is high. This change also bears a cultural impact, since ancient foods and practices are being substituted with foods that do not feed our bodies, let alone our spirits. A special source of concern is the fact that this phenomenon appears wherever there is unsuitable infrastructure to mitigate the highly noxious effects of changing dietary habits.

Consumption Model and Policies impacting Food Security

There is ample evidence on the addictive nature of sugar-, fat-, and salt-rich foods. In high concentrations, they have been proven to cause an addiction pattern similar to that of opioid substances. They translate into the release of endorphins (triggering the so-called “opioid pleasure system” or “pleasure circuit”, which is very similar to that generated by drugs such as opioids). When present in high concentrations combining two or three of these ingredients, they trigger certain brain circuits that lead us to increase our intake. This behaviour has been clearly seen in both animals and humans (Avena et al., 2002).

The population at large, and particularly children, are being exposed to greater and easier access to “junk food”. There is significant availability of energy-dense food and sugar-rich beverages within and nearby schools, hospitals, health care centres, and offices, and little or no availability of fruits and vegetables and drinking water. Many populations have greater and easier access to soft drinks than to water, and are therefore led to consume the former.

The consequences of eating energy-dense foods with a high sugar, salt and fat content are threefold: 1) They are as addictive as cocaine, and they acts upon the same circuit being triggered when opioids or cocaine are consumed; 2) they lead to binge eating, thus obliterating the feeling of satiety; and 3) they only lead to an ever growing fat, salt and sugar intake. (Kessler, 2009)

A study conducted in the USA shows that average sugar consumption among children is 15-20 teaspoons/day. (Johnson et al., 2009). This is more than three times the acceptable threshold set for children. Figures in Mexico are no different. According to the American Heart Association (AHA), a preschooler or child in school age should not have more than 3-4 teaspoons of sugar a day. A 110 ml juice glass contains that amount of sugar. This is just an example. There are hundreds of products in the market containing large amounts of sugar, fat and/or salt, which are being advertised as “healthy”. People are unaware of this fact, and of the serious impact this bears on health.

Healthy Foods

Mexican cuisine has been declared Intangible Cultural Heritage of Humanity by UNESCO. Consistently with this, we need to further strengthen our ancient dietary habits with programmes that offer guidance to parents through elementary school textbooks and regional recipe cookbooks that return its well-deserved prestige to our rich traditional diet, which stems from our ranking as the fourth richest country in terms of biodiversity and from our 62 original cultures, which have managed to work in close relationship with nature, using everything it has to offer. A clear example of this is our cornfields, where no GM seeds are used.

The main cause of the diabetes epidemics in Mexico may be found in the fast deterioration of our dietary habits, especially the sharp decrease in the consumption of fruits and vegetables, grains and legumes (such as beans and corn), which have always been present in our diet. It should be noted that beans and corn, which have been the foundation of the traditional Mexican diet, have been replaced by an exponential increase in the consumption of refined flours, soft drinks and, generally, by highly processed foods and beverages, so that we have become the world’s largest ready-made soup and soft drink consumers (*Manifiesto por la Salud Alimentaria*, 2012).

Failed Public Policies

Public policies to fight obesity and overweight, as well as malnutrition, have been implemented by the Mexican government, but to no avail. An example of this is a government programme called *Oportunidades* (Opportunities). Ironically enough, the aid provided by this programme appears to bear a negative effect on communities. People report that they use the money they receive to buy beer or junk food. Street markets are set up right outside health care centers on the benefit payment day that offer only junk food, beer and unhealthy snacks.

Thus, people become mere intermediaries between large monopolistic groups and the Government. As evidenced by the chart below, surveys conducted by the INNSZ (*Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán*) prove that malnutrition and undernourishment rates are generally higher among the population receiving aid from the “*Oportunidades*” programme (Chávez-Villasana & Ávila-Curiel, 2009).

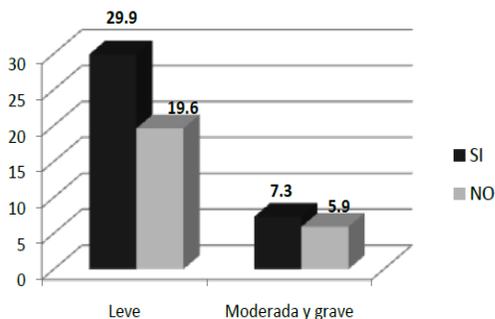


Chart 1: A comparison of Malnutrition in >5 Children included/not included in the “Oportunidades” Programme.

Yet another programme put forward by the Mexican government was the *Acuerdo Nacional por la Salud Alimentaria* (National Food Accord), where all agencies that could contribute to improving health in the country were involved. The programme established 10 goals, including access to drinking water, massive nutrition campaigns, protection for breastfeeding, labeling, and deceitful advertising. This programme was of a voluntary nature, however, and there was no sufficient budget to implement it (ANSA, 2010).

Discussion and Final Remarks

Improved eating habits need be truly encouraged among the population, so that they gradually permeate our homes, and our society as a whole. Urgent action needs to be taken in order to fight this epidemics.

Trying to respond to the nutritional problem and its spreading in critical areas is viable. Many countries such as Sri Lanka, China, Costa Rica, Chile, Cuba, Brazil, Norway and Finland have had good results with programmes intended to offer nutritional surveillance, to detect and treat malnutrition, to fortify staple foods, to provide highly nutritious, low-cost foods, offer family food security, education, sustainability, etc. (EPC, 2012).

The following has been proposed to ensure the viability of the Mexican population at a health and financial level (*Manifiesto por la Salud Alimentaria*, 2012): To provide for the mandatory, free supply of purified drinking water in schools and public and commercial spaces as an unrenounceable duty of the federal, state and municipal governments.

To ensure that schools only offer healthy food choices (as full menus, not as individual industrialized foods). Meals offered at schools should be based on family meals and on school canteen practices, and both should be structured and monitored in line with technical standards that will ensure they meet nutritional and hygiene requirements. The fast, progressive replacement of school snack shops by canteens offering proper food needs be actively promoted.

To protect children from advertising that induces poor eating habits, as provided by Article 17, subsection e) of the Convention on the Rights of the Child: “Encourage the development of appropriate guidelines for the protection of the child from information and material injurious to his or her well-being...” Within this framework, to prohibit the promotion and advertising of foods and beverages directed towards children on all media (such as TV, Internet, mobile phones), and other spaces working with young children (e.g. schools and amusement centers), the only exception being the promotion of nutritionally advisable foods.

To provide for the mandatory labeling of processed foods and beverages, with a clear, simple indication of their high/medium/low sugar, sodium, total fat, trans fat, and saturated fat content. Labels shall warn about the health risks resulting from regular consumption of products with a high content of these ingredients.

To promote a massive, ongoing campaign on dietary habits at a national level that clearly establishes a distinction with those foods that are recommended for a healthy nutrition and informs on non-advisable foods and beverages.

To establish a tax on junk food and soft drinks, the revenue of which shall be allocated to ensuring drinking water supply to water fountains throughout the country, especially at schools and in poorest communities, and to pay for the costs associated to treating obesity and overweight-related ailments.

To ensure food security and sovereignty by prioritizing the promotion of small and medium-sized rural production units and ensuring sustainable and diversified production of sufficient quality foods, as well as their availability to the Mexican population at large. Additionally, our diet must be consistent with our cultural traditions. This calls for putting an end to environmental impairment, and enhancing the status of our large variety of corn species, beans, green vegetables and native fruits, among others, whose nutritional quality has been proven for thousands of years, and which should be afforded special protection as Mexican native species.

To demand that the State comply with the WHO/UNICEF International Code of Marketing of Breast-milk Substitutes signed by the Mexican government, and to encourage the adoption of recommendations issued by these agencies by providing for “*ad libitum* breastfeeding as the only food source during the first six months of life, followed by the introduction of complementary foods, but continuing with breastfeeding.” [Free translation]

Public policies need be in place that prioritize the interests of our peoples over those of corporations that only wish to further strengthen their monopolistic power over the agrifood chain (ranging from production processes (patented seeds and agrochemicals) to grain and food marketing), in order to make this a viable country, at both a health and financial level.

References

1. Adolfo Chávez Villasana y Abelardo Ávila curiel. Complementariedad y articulación entre los programas gubernamentales de nutrición y de abasto. Informe sobre la pertinencia de las normas y ordenamientos actuales vinculados con la nutrición y el abasto. 2009.
2. Avena NM, Chadeayne A y Hoebel BG. Evidence that intermittent, excessive sugar intake causes endogenous opioid dependence. Colantuoni C, Rada P, McCarthy J, Patten C, Obesity Research 2002;(1):6:478-488.
3. Ávila-Curiel A., Chávez-Villasana A. y Ávila-Across MA. La situación nutricional de la población mexicana. Rumbo Rural, 2008:09;4. 64-87.
4. Bremer AA y Lustig RH. Effects of sugar-sweetened beverages on children. Pediatric Annals 2012 41:1.
5. Cambios en la situación nutricional de México 1990-2000, a través de un índice de riesgo nutricional por municipio. Editor José Antonio Roldán Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán, México 2003.
6. Consejo Nacional de Evaluación de la Política de Desarrollo Social (CONEVAL). Dimensiones de la seguridad alimentaria: evaluación estratégica de nutrición y abasto. 2010.
7. Ludwig DS, Peterson KE, Gortmaker SL. Relation between consumption of sugar-sweetened drinks and childhood obesity: a prospective, observational analysis. Lancet 2001; 357: 505–08.
8. El Poder del Consumidor. Avanzan leyes antiobesidad en Latinoamérica, en México no. Disponible en: <http://www.elpoderdelconsumidor.org/saludnutricional/avanzan-leyes-contra-obesidad-en-america-latina-en-mexico-no/>. 2012.
9. Gutiérrez JP, Rivera-Dommarco J, Shama-Levy T, Villalpando-Hernández S, Franco A, Cuevas-Nasu L, Romero-Martínez M, Hernández-Ávila M. Encuesta Nacional de Salud y Nutrición 2012. Cuernavaca, México: Instituto Nacional de Salud Pública, 2012.
10. Johnson RK, Appel LJ, Brands M et al. Dietary sugars Intake and Cardiovascular Health, a Scientific Statement from the American Heart Association. Circulation.2009;120:1011-1020.
11. Juan Rivera, Simón Barquera, Fabricio Campirano, Ismael Campos, Margarita Safdie y Victor Tovar. Epidemiological and nutritional transition in México: rapid increase of non-communicable chronic diseases and obesity. Public Health Nutrition 2002;5(1A), 113-122.
12. Kessler, T. The end of overeating. Blackraven press. New York, 2009.
13. Manifiesto por la Salud Alimentaria. Alianza por la Salud Alimentaria. México. Disponible en: <http://alianzasalud.org.mx/images/manifiesto-por-la-salud-alimentaria.pdf>. 2012.
14. Organización de las Naciones Unidas (ONU). Comité de derechos humanos para la infancia, 2009.
15. Organización de las Naciones Unidas para la Agricultura y la Alimentación (FAO). Panorama de la Seguridad Alimentaria y Nutricional en América Latina y el Caribe. Resumen Ejecutivo. 2012.
16. Secretaría de Salud. Bases técnicas del Acuerdo Nacional para la Salud Alimentaria. Estrategia contra el sobrepeso y la obesidad, México; 2010.
17. Shamah-Levy T, Villalpando-Hernández S, Rivera-Dommarco JA. Resultados de Nutrición de la ENSANUT 2006. Cuernavaca, México: Instituto Nacional de Salud Pública, 2007.
18. Torún V, Viteri F. E. Desnutrición calórico-protéica. En Nutrición en Salud y Enfermedad. Shils. 9ª. Edición México. McGraw Hill; 2002:1103-34.