

Sin El Fil 3rd School in Beirut



WFP/Dina El Kassaby

measurements are being taken by the Ministry of Education. However, indicators such as enrolment and attendance are being captured, despite the attendance dynamics, with numbers continually changing due to lack of deadlines for registration and dropouts.

Another challenge is ensuring the sustainability of the programme, including the provision of meals and nutrition education. Given the experience that IOCC had ten years ago in the same schools, there is a need to ensure institutional memory in what worked well and what challenges remain. To sustain healthy eating in schools, efforts also need to focus on improving the quality of meals and snacks in schools, which are mostly high in sugar and fat. There was a recent attempt to improve the quality of these snacks through legislation, although steps to enforce this law are still lagging.

References

Daher S, Naja F, Hwalla N, Alameddine M & Jomaa L. (2016). *Food and Nutrition Security Status of Syrian Refugees and Their Host Communities in Lebanon: The Case of Akkar*.

Ghattas H, Sahyoun N, Sassine A, Barbour J, Seyfert K, Hwalla N & Nord M. (2014). *Household food insecurity is associated with childhood stunting in vulnerable populations in Lebanon* (1014.3). *The FASEB Journal*, 28(1 Supplement), 1014-3.

Hossain SM, Leidman E, Kingori J, Al Harun A & Bilukha OO. (2016). *Nutritional situation among Syrian refugees hosted in Iraq, Jordan, and Lebanon: cross sectional surveys*. *Conflict and Health*, 10(1), 26.

Tackling overweight and obesity in Ecuador: Policies and strategies for prevention



(Left to right) **Angélica Ochoa-Avilés** is a professor/researcher at the Food Nutrition and Health Unit, Department of Biosciences, Cuenca University, Ecuador.

Gabriela Rivas-Mariño is the coordinator of the National Nutrition and Food Security Unit at the Ecuadorian Ministry of Public Health.

Roosmarijn Verstraeten is an independent nutrition consultant and collaborator at the Department of Food Safety and Food Quality, Ghent University, Belgium.

Child and adolescent nutrition and health in Ecuador

Ecuador is an Andean upper middle-income country with 16.5 million inhabitants and a life expectancy of 76 years. An estimated 63% of the population live in urban areas, 72% are 'mestizos' (of mixed Spanish and indigenous descent) and 7% are indigenous people. Over the past decade, Ecuador has experienced a higher burden of non-

communicable diseases (NCDs) such as diabetes, hypertension, stroke, ischemic heart disease and pneumonia, which are now the leading causes of death (Instituto Nacional de Estadísticas y Censos, 2013). Overweight and obesity are widely prevalent across all age groups (8.6% of children under five years old; 29.9% of school-age children; 26% of adolescents; and 62.8% of adults) (Freire, Belmont et al, 2013).

In addition, around 13% of households have both an overweight or obese mother and a child under five years old who is stunted, which shows how the double burden of malnutrition and overweight can coexist in the same household. Worryingly, stunting and anaemia among children under five are 25.3% and 25.7% respectively; both conditions are higher among indigenous groups (42.3% and 40.5% respectively) (Freire, Belmont et al, 2013). Exclusive breastfeeding occurs only in 43.8% of children under six months old; this number decreases among women in the higher income groups (31.9%) and in those with a higher education level (29.2%) (Freire, Belmont et al, 2013).

In response to these public health challenges, the Government of Ecuador has adopted a national nutrition agenda that aims to achieve the following goals by 2025: to eradicate stunting among children under two years old; to reach 64% exclusive breastfeeding for infants during the first six months of life; and to decrease the prevalence of obesity and overweight among children aged 5 to 11 years old to 26%. This article describes the strategies that have been implemented to reduce the rapid increase in obesity among children of school age.

Food labelling regulations

A key policy in the fight against obesity is implementation of traffic-light labelling of processed foods and beverages. This system applies to all the pre-packaged, processed food items containing artificially added fat, sugar or salt, produced nationally or internationally and sold in Ecuador. The labels classify processed food as having a low, medium or high content of total fat, sugars and salt, as described in Figure 1. The label is a simple and useful tool that can help people choose what they buy and eat. An evaluation showed that children, adolescents concerned about health issues and adult women pay more attention to the label when selecting products (Freire, Waters et al, 2016). Moreover, the population has adjusted eating behaviours in response to a red label, with reported reductions, for example, in the frequency and amount of consumption of such food items. Instead, people prefer food options with yellow and green labels and natural foods and beverages such as fruits, vegetables and water (Freire, Waters et al, 2016).

Of great importance to Ecuador, the traffic-light regulations have been recognised by the Pan-American Health Organization 55th Directive Council as a public health achievement in the region and have received endorsements from organisations including the NCD Alliance, the Healthy Latin American Coalition and the World Cancer Research Fund.

Nima Yeghmaei



A rural market in Ecuador with a wide variety of food

Regulations for in-school food tuck shops

In April 2014, the Ministry of Health (MoH) issued an agreement to regulate the functioning of in-school food tuck shops, which established regulatory committees at national and local level to protect the health of school children. To prevent possible conflicts of interest, the food industry does not form part of these regulatory committees. This is in order to overcome constant industry pressure to block the implementation of the agreement. The regulations prohibit the sale of: (i) any product with a high sugar, salt or fat content (with a red traffic light); (ii) products containing artificial sweeteners and caffeine; and (iii) energy drinks. In addition, food tuck shops are obliged to sell fruits and vegetables and to offer free, safe water. According to MoH 2016 national reports, 70% of schools comply with the bans relating to red traffic lights and 95% comply with the obligation to sell fruit and vegetables. A more in-depth evaluation of the strategy is planned in 2017.

Physical activity lessons and food taxes

Since 2014, in parallel with the in-school food tuck shop regulations, the Ministry of Education (MoE) stipulated an

Figure 1 The traffic-light food label

	Low content (Green label)	Medium content (Amber label)	High content (Red label)
Total fat	≤3g/100g	>3g and <20g /100g	≥20g/100g
	≤1.5g/100mL	>1.5g and <10g/100mL	≥10g/100mL
Sugar	≤5g/100g	>5g and <15g /100g	≥15g/100g
	≤2.5g/100mL	>2.5g and <7.5g/100mL	≥7.5g/100mL
Sodium	≤120mg/100g	>120mg and <600mg/100g	≥600mg/100g
	≤120mg/100mL	>120mg and <600mg/100mL	≥600mg/100mL

Source: Freire, Waters et al, 2016



Students learn about healthy eating during the ACTIVITAL intervention

Ximena León

increase in physical activity lessons from two to five hours per week in the national education system. Unfortunately, neither the results nor an evaluation of this initiative have been reported since its implementation, although the MoH is planning to monitor the initiative in 2017.

In May 2015, Ecuador's National Assembly approved a law to increase taxes on sugary and non-sugary drinks. This fiscal measure imposes a tariff of US\$0.18 (18 cents) per 100 grams of sugar added to processed beverages. For non-sugary drinks, including those that use artificial sweeteners, a rate of 10% of the price is imposed.

Healthy eating and physical activity in schools: the ACTIVITAL programme

A research group from Cuenca University, in collaboration with researchers from Ghent University in Belgium, implemented the ACTIVITAL programme from 2009 to 2012 to improve dietary and physical activity behaviours among 1,430 school-going Ecuadorian adolescents aged 11-16 years. The programme involved 20 schools in the urban area of Cuenca, Ecuador's third-largest city. It consisted of interactive classes taught by schoolteachers on healthy eating and physical activity; participatory workshops with parents and food tuck shop staff on topics such as healthy eating, physical activity, portion sizes, and food safety; preparation of healthy breakfasts; motivational talks by famous local athletes; and the creation of walking trails in the schools.

These strategies were implemented in ten schools, while the normal curriculum was maintained in the other ten. ACTIVITAL was found to be effective in decreasing added sugar and processed food intake during snacks and reducing waist circumference and blood pressure among members of the intervention group. The intervention ameliorated the trends towards lower fruit and vegetable intake and less physical activity during adolescence (Ochoa-Avilés, 2015).

The following challenges were identified during the implementation and evaluation of ACTIVITAL:

- As the programme was not included in the school curriculum, teacher participation was voluntary rather than compulsory, but researchers could not wait for the revised curriculum due to funding constraints;
- Portion sizes of dishes offered by the food tuck shops were large, with high levels of carbohydrates, and low in protein, fruit and vegetables, but there was strong resistance to reducing portion sizes from staff and teachers for cultural reasons and because of the simultaneous initiation of the in-school food tuck shop regulations (described above). A lesson learnt is the importance of involving all stakeholders in the design, implementation and evaluation of policies to enable the acceptance of feasible and locally adapted strategies.
- Despite recognition of its positive results, ACTIVITAL has not been scaled up due to a national agenda focus that prioritises under 12-year-olds rather than adolescents and the challenge of the MoH and MoE in implementing a joint strategy, since each ministry has different objectives, frameworks and authorities, and budget issues.

Next steps

Although actions have been taken to promote healthy eating and physical activity, more efforts are needed. Having a national agenda along with a strong political will has helped Ecuador put in place powerful strategies at the national level, but these achievements need protection by: (i) 'scaling up' the regulations into laws; (ii) reinforcing the surveillance and monitoring systems for the regulations; (iii) scaling up local, successful interventions; and (iv) increasing the national budget for health promotion.

Positive outcomes of the ACTIVITAL research are a new study aimed at understanding the obesity problem among younger children and documenting the perceptions of in-school food tuck shops, and a more active relationship between policymakers and researchers, with academic involvement in preparing Ecuador's Nutrition Guidelines.

References

- Freire WB, Belmont P, Mendieta M, Silva M, Romero N, Sáenz K, Piñeiros P, Gómez L, Monge R. *Resumen Ejecutivo Tomo I. Encuesta Nacional de Salud y Nutrición del Ecuador*. In: Ministerio de Salud Pública INdEyC, editor. Quito, Ecuador, 2013.
- Freire WB, Waters WF, Rivas-Mariño G, Nguyen T, Rivas P. *A qualitative study of consumer perceptions and use of traffic light food labelling in Ecuador*. *Public Health Nutrition*. 2016:1-9.
- Instituto Nacional de Estadísticas y Censos. *Presentación Defunciones 2011 Ecuador*. Instituto Nacional de Estadísticas y Censos; 2011 (updated 07/01/2013.)
- Ochoa-Avilés AM. *Cardiovascular risk factors among Ecuadorian adolescents: a school-based health promotion intervention*. Ghent University, 2015.