Regional Overview on the Double Burden of Malnutrition and Examples of Program and Policy Responses: Latin America and the Caribbean

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Abstract

Background: Hunger, food insecurity, stunting, anemia, overweight, and noncommunicable diseases (NCDs) may coexist in the same person, household, and community in Latin America and the Caribbean (LAC). The double burden of malnutrition (DBM) is an important cause of disability and premature death, which could be addressed with comprehensive policies such as the Plan of Action for the Prevention of Obesity in Children and Adolescents. This paper summarizes the main policies and actions aimed to prevent undernutrition and obesity. **Summary:** Several countries are implementing the Plan of Action, Caribbean Public Health Agency is actively supporting Ministries of Health, Education, and Sport to develop school nutrition policies and strategies to create health-promoting environments at school and in their surrounding communities. Chile is implementing the comprehensive child protection system “Chile Crece Contigo” that integrates health, social development, and educational activities to optimize growth and childhood cognitive-motor development. Brazil is implementing policies

and plans to commit to international targets regarding food and nutrition security, NCDs and their risk factors. **Key Messages:** The DBM exists in the Americas and contributes to disability and premature death. The Region is making progress implementing policies and actions addressing the DBM. However, stronger political will and leadership are needed to enact legislation and policies that create and support enabling environments.

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Introduction

Regional authorities for the Americas remain focused on addressing the main causes and drivers of malnutrition and to identifying potential solutions. As part of the regional session at the International symposium on “Understanding the Double Burden of Malnutrition (DBM) for Effective Interventions” [1], Member States aim to

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Table 1. Plan of action for the prevention of obesity in children and adolescents for 2014–2019 (document CD53/9, Rev. 2); Washington, DC, 2014 [14]

Overall objective	Strategic lines of action
Halt the rise of the rapidly growing obesity epidemic in children and adolescents, through multisectoral life-course approach that is based on the social-ecological model and focuses on transforming the current obesogenic environment into opportunities for increased intake of nutritious foods and improved physical activity	<ol style="list-style-type: none"> 1. Primary health care and promotion of breastfeeding and healthy eating 2. Improvement of school food and physical activity environments 3. Fiscal policies and regulation of food marketing and labeling 4. Other multisectoral actions 5. Surveillance, research, and evaluation

share best practices in addressing the DBM and support the use of nuclear science and technology to address major sustainable development priorities targeting optimal feeding and proper nutrition.

The Americas region has made substantial and rapid progress in reducing the prevalence of stunting and wasting, yet regional averages may mask inequities in this progress between and within countries. Currently, in the Americas, 6.3% of children under 5 years are stunted [2], 0.9% are wasted [3], and 7.2% are overweight [4]. As well, 19.1% of women of reproductive age are anemic [5], 62.5% of adults over 18 years are overweight [6], and 28.6% of adults are obese [7]. The Americas is now the region with the highest prevalence of overweight and obesity in the world [8]. In addition, the prevalence of noncommunicable diseases (NCDs), such as cardiovascular disease, cancer, diabetes, and chronic pulmonary diseases, continues to increase in all age groups [9]. Current evidence shows that hunger, food insecurity, stunting, wasting, anemia, overweight, and NCDs may coexist in the same person, household, and community [10, 11]. The DBM in the region is linked to the consumption of ultraprocessed foods that are energy-dense, high in sugar, salt or fat, and nutrient-poor [12], which are an important cause of disability and premature death. Such dietary changes create an urgency to transform the food supply chains and food environments to increase access of healthy foods and consequently end all forms of malnutrition [13, 14].

At the regional level, in 2014, Member States of the Pan American Health Organization (PAHO) unanimously approved the Plan of Action for the Prevention of Obesity in Children and Adolescents [15], which is an example of a comprehensive policy to address the DBM. The overall goal of this Plan of Action is “to halt the rise of the rapidly growing obesity epidemic in children and adolescents, through multisectoral life-course approach that is based on the social-ecological model and focuses on transforming the

current obesogenic environment into opportunities for increased intake of nutritious foods and improved physical activity.” The plan encourages the Member States to formalize a series of policies aimed at preventing childhood obesity through specific environmental approaches (Table 1). For example, the plan encourages countries to develop clinical guidelines to prevent and manage overweight and obesity and promote healthy eating and physical activity in primary health care, adopt and monitor the implementation of the International Code of Marketing of Breastmilk Substitutes, certify at least 50% of maternity health facilities as Baby Friendly Health Hospital, create an enabling school environment to improve nutrition and increase physical activity. Other policies promoted include regulating marketing, food labeling, and taxation of food and beverages high in sugar, salt, or fat and promote family farming to reduce relative price of healthy foods.

Regional Achievements Toward Preventing the DBM

Achievements by Member States of the Americas [16] related to the Plan of Action are summarized in Table 2. What follows is a synopsis of broad activities in the Americas that aim to prevent undernutrition and obesity while promoting policies to prevent the DBM. For example, The Caribbean Public Health Agency (CARPHA) [17] is a collective response to strengthening health system and policy actions in the Caribbean. The agency has been actively involved in the implementation of evidence-based programs to prevent stunting, wasting, overweight, and obesity, which have been identified as the main problems among school-age children in the Caribbean. CARPHA is also actively involved in providing technical assistance for the development of school nutrition policies that restrict or ban the use of sugar-sweetened beverages and unhealthy snacks and promote strategies and activities for

Table 2. Midterm review of the plan of action for the prevention of obesity in children and adolescents [15]

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- Nine countries have guidelines to promote healthy eating and physical activity in primary health care services
 - Ecuador published regularly the results of monitoring of the implementation of the International Code of Marketing of breast-milk substitutes
 - Barbados, Colombia, Nicaragua, and Uruguay have at least 50% of their maternity health services certified or recertified as Baby Friendly in the last 5 years
 - Eighteen countries have national or subnational school feeding programs that satisfy nutritional needs
 - Fifteen countries have norms that promote the sale of healthy foods and limit the availability of ultra-processed foods high in calories and nutrient poor in school settings
 - Twenty-five countries report that at least 70% of their schools have access to clean drinking water
 - Barbados, Chile, Dominica, Mexico, Ecuador have taxed sugar sweetened beverages
 - Chile, Ecuador, and Mexico have passed regulation on marketing of food and beverage to children
 - Chile and Ecuador have norms in place for front-of package labeling
 - Eight countries have a multisectoral approach regarding the implementation of PAHO's Plan of Action
 - Nine countries have "open streets" programs in at least 5 cities or municipalities
 - Nineteen countries have created incentives at national level to support family farming programs
 - Eighteen countries have introduced measures to improve relative prices and/or accessibility to healthy
 - Canada, Colombia, Mexico, and the United States of America have report regularly on the obesity prevalence of pregnant women, adolescents, and children as well as food consumption and dietary food patterns
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PAHO, Pan American Health Organization.

creating health-promoting environments within schools and their surrounding communities. Through its World Diabetes Foundation-funded projects, CARPHA has and continues to collaborate with Ministries of Health, Education and Sport for the development and implementation of school-based lifestyle interventions. The first of these projects ran from 2008 to 2012 and targeted select high schools in 4 countries (Grenada, St Kitts and Nevis, St Vincent, and the Grenadines and Trinidad and Tobago). Currently, the agency has a similar project being conducted in select primary schools in Grenada and St Lucia. Both projects adopt an intervention-control design that targets students, schools, families, and communities. CARPHA continues to advocate for such behavioral interventions to be adapted/adopted in schools across the region by utilizing resources already in existing in country and encouraging/supporting regular training activities facilitated by various stakeholders (government ministries, NGOs etc.).

In Chile, maternal and infant health and nutrition programs have been recognized as key to enhance human capital. The comprehensive child protection system "Chile Crece Contigo" (Chile Grows with You) integrates health, social development, and educational activities from early pregnancy to 4–5 years of age. This system aimed to optimize growth and childhood cognitive-motor development [18] was implemented in 2007 and institutionalized by the Intersectoral Social Protection System.

Finally, Brazil has significantly reduced the prevalence of wasting and stunting since the 1990s in part due to in-

tersectoral policies such as increasing formal employment, expanding conditional cash transfer programs, and expanding access to public education, health, and sanitation. Despite this, a high prevalence of these conditions may persist in marginalized and vulnerable populations. Meanwhile, due to changes in food patterns (i.e., increased availability of ultraprocessed foods and an intake of sugar, salt, and fat), the prevalence of obesity and overweight has increased across all age groups and socioeconomic levels. NCDs are responsible for over 70% of deaths in Brazil. Addressing this situation is a public health priority, and Brazil has built a comprehensive NCD prevention and control plan and is committed to meeting international targets regarding NCDs and its risk factors [19]. For example, in 2017, Brazil became the first country to adopt 3 major commitments to the Decade of Action on Nutrition [20]: prevent adult obesity; reduce consumption of sugar-sweetened beverages among adults by 30%; and increase the proportion of adults who eat fruit and vegetables by 17%. Brazil has also committed to intersectoral policies related to food and nutrition security, food reformulation for reducing sodium, sugar, and fat in foods, microcredit loans to farmers, and cash transfers to poor families to improve food security. To strengthen the regional efforts for the Decade of Action on Nutrition, the Ministry of Health of Brazil is coordinating 2 Networks of Action (Food-Based Dietary Guidelines and Sodium Reduction for Cardiovascular Disease Prevention), and the Ministry of Social Development has proposed additional Networks on Gov-

ernance on Food and Nutrition Security and Food Procurement Policies. Brazil believes that tackling the DBM requires multistakeholder and intersectoral approaches and country and interagency cooperation. There is a strong belief that the Decade of Action on Nutrition provides an important setting for commitments and policy action.

Discussion

It was evident from the presentations that the DBM exists in the Americas, the prevalence of which varies between LAC countries. The region is at particular risk for the DBM, which creates a significant socioeconomic and development challenge as many countries in the region are small with open, but vulnerable, economies due to trade policies, and the negative impact of multinational companies, along with hostile and highly vulnerable climatic conditions. At all levels, there was sharing of plans for adopting strategies and approaches aligned with international best practices to address aspects of the DBM in the non-Latin American countries of the Caribbean focused on childhood obesity and overweight. It was recognized that the region needs stronger political will and leadership to enact legislation and policies that create enabling environments by holding governments accountable, advocating for action, hosting empowered and better-informed people, and monitoring and evaluating progress.

Regional institutions, civil society, and academic institutions are increasingly addressing the DBM, but there is a need for greater interagency and institutional collaboration and greater application of a whole society approach, including effective participation of the private sector. Given the vast evidence of the DBM affecting all regions of the world, it is imperative that governments support integrated responses to achieve the Sustainable Development Goal (SDG) of ending malnutrition in all its forms (SDG 2) and ensuring healthy lives and promoting well-being for all (SDG 3). It is also imperative that regional governments and institutions work in tandem to promote and support multicomponent interventions that prioritize the main drivers of the DBM (social, demographic, behavioral, environmental, and biological). Such interventions include the following: the WHO double duty actions; cost-effective evidence-based interventions; optimal maternal and antenatal nutrition and care; protection, promotion, and support of breastfeeding and appropriate complementary feeding; programs that foster healthy diets in schools, public institutions, and workplaces; policies that improve food security; and initiatives that ensure access to

healthy and sustainable diets from appropriate and resilient food systems [13]. In addition, it is essential to incorporate food and nutrition surveillance, program monitoring, implementation, and evaluation research in policy implementation to capture expected and unexpected outcomes. PAHO should take the lead to integrate and coordinate optimal multisectoral and interagency actions, including the productive sector when need it.

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Statement of Ethics

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Disclosure Statement

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References

- 1 International Atomic Energy Agency. International Symposium on Understanding the Double Burden of Malnutrition for Effective Interventions Vienna, Austria 2018. Available from: <https://www.iaea.org/events/understanding-the-double-burden-of-malnutrition-symposium-2018>.
- 2 WHO Global Health Observatory data repository. Global and regional trends by WHO Regions, 1990-2025. Stunting: 1990-2025. Available from: <http://apps.who.int/gho/data/node.main.NUTWHOREGIONS?lang=en>.
- 3 WHO Global Health Observatory data repository. Global and regional trends by WHO Regions, 1990-2025. Wasting: 2017. Available from: <http://apps.who.int/gho/data/view.main.NUTWHOSEVWASTINGv?lang=en>.
- 4 WHO Global Health Observatory data repository. Global and regional trends by WHO Regions, 1990-2025. Overweight: 1990-2017. Available from: <http://apps.who.int/gho/data/view.main.NUTWHOOVERWEIGHTv?lang=en>.
- 5 WHO Global Health Observatory data repository. Prevalence of anemia in women. Estimates by WHO region. Available from: <http://apps.who.int/gho/data/view.main.GSWCAH28REG?lang=en>.
- 6 WHO Global Health Observatory data repository. Prevalence of overweight among adults, BMI ≥ 25 , age-standardized Estimates by WHO Region. Available from: <http://apps.who.int/gho/data/view.main.GLOBAL2461A?lang=en>.
- 7 WHO Global Health Observatory data repository. Prevalence of obesity among adults, BMI ≥ 30 , age-standardized. Estimates by WHO region. Available from: <http://apps.who.int/gho/data/view.main.REGION2480A?lang=en>.
- 8 Global status report on noncommunicable diseases 2014. Geneva: World Health Organization; 2014. Available from: https://apps.who.int/iris/bitstream/handle/10665/148114/9789241564854_eng.pdf;jsessionid=A769046201F58A60825B7ED278F495B8?sequence=1.
- 9 Noncommunicable diseases country profiles 2018. Geneva: World Health Organization; 2018. Available from: <http://apps.who.int/iris/bitstream/handle/10665/274512/9789241514620-eng.pdf?ua=1>.
- 10 The double burden of malnutrition. Policy brief. Geneva: World Health Organization; 2017.
- 11 FAO, OPS, WFP y UNICEF. 2018. Panorama de la seguridad alimentaria y nutricional en América Latina y el Caribe 2018. Santiago.
- 12 Pan American Health Organization. Ultra-processed food and drink products in Latin America: Trends, impact on obesity, policy implications. Washington: PAHO, 2015.
- 13 HLPE. 2017. Nutrition and food systems. A report by the High-Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome.
- 14 Plan of Action for the Prevention of Obesity in Children and Adolescents for 2014-2019 (Document CD53/9, Rev. 2); Washington: 2014. Available from: <https://www.paho.org/hq/dmdocuments/2014/CD53-9-e.pdf>.
- 15 Plan of action for the prevention of obesity in children and adolescents: midterm review. (Document CD56/INF/22. 11 July 2018). Pan American Health Organization. Washington, DC. 2018. Available from: https://www.paho.org/hq/index.php?option=com_content&view=article&id=14469:56th-directing-council&Itemid=40507&lang=en.
- 16 Caribbean Public Health Agency (CARPHA). Advancing the Development of Caribbean People. Preventing disease, promoting and protecting health. Available from: <http://carpha.org/Portals/0/docs/CARPHA%20BOOKLET2.pdf>.
- 17 Caribbean Public Health Agency (CARPHA). Agreement Establishing the Caribbean Public Health Agency (CARPHA). [June 2011]. Available from: http://carpha.org/Portals/0/docs/CARPHA_IGA.pdf.
- 18 Ley 20378. Crea el sistema intersectorial de protección social e institucionaliza el subsistema de protección integral a la infancia "Chile crece contigo". Chile, Septiembre 2012. Available from: <https://www.leychile.cl/Navegar?idNorma=1006044>.
- 19 Strategic Action Plan to Tackle Noncommunicable Diseases (NCD) in Brazil 2011-2022. Ministry of Health Brasilia-DF 2011. Available from: https://www.iccp-portal.org/system/files/plans/BRA_B3_Plan%20DCNT%20-%20inglés.pdf.
- 20 United Nations Decade of Action on Nutrition 2016-2015. Available from: <http://www.fao.org/3/a-i6129e.pdf>.