Addressing overweight and obesity in low- and middle-income countries: Roles and recommendations for non-governmental organizations and program implementers

*Technical Brief**

March 2022

Highlights from a position paper by CORE Group's Nutrition Working Group (NWG)

Background

The proportion of the global population experiencing overweight and obesity (OwOb) continues to increase. Across the globe, rising body mass continues to be a top risk factor contributing to global disease burdens, with low- and middle-income countries (LMICs) leading this upward trend for the past 20 years (1). OwOb currently affects approximately 44% of all adults and 20% of all children 5-17 years of age, and overweight affects almost 6% of all children under 5 years of age; the vast majority of these populations reside in LMICs (2,3).

Historically, in LMICs, undernutrition (i.e., stunting, wasting, underweight, low birthweight, anemias, and micronutrient deficiencies) has dominated the health and nutrition landscape, particularly among women, children, and populations experiencing poverty, while OwOb have concentrated among the wealthy. However, over the past few decades, globalization and urbanization have changed food systems and food environments, such that access to energy-dense and nutrient-poor foods and normalization of sedentary lifestyles are increasingly common across all income levels (4). Addressing OwOb in LMIC will require integrated partnerships across local, national, and international stakeholders.

Position Statement of the NWG

It is the position of the Nutrition Working Group of CORE Group that prevention of overweight and obesity among adults, adolescents, and children be incorporated into nutrition programming in low- and middle-income countries (LMICs), complementing the current focus on undernutrition programming.

Approaches to address overweight and obesity should prioritize consideration and evaluation of the varying LMIC contexts, including differing settings, population characteristics, age groups, and nutrition status.

*The full report can be found at: www.coregroup.org

Why should we care? Consequences of overweight and obesity

OwOb are linked to a host of health and economic outcomes. Adults with OwOb are at higher risk of developing noncommunicable diseases (NCDs), such as cardiovascular disease, diabetes, and cancer, all of which increase the risk of premature death (death between the ages of 30 and 69 years) (5). In LMICs, approximately 85% of premature deaths are due to noncommunicable diseases (5). Children who experienced poor fetal growth, stunting, or undernourishment in the first two years of life are at increased risk for metabolic diseases such as high blood pressure and OwOb (6). Poor nutrition in early life has also been linked to lifetime reductions in human capital, including lower attainment in school, reduced skills development, and lower wage earnings (7).

The costs of OwOb are significant not only to the individual, but also to national and global economies. In the United States in 2010, about 20% of all national medical costs were due to OwOb (2). In addition, OwOb are linked to increased risk of depression, anxiety, and other mental health conditions worldwide, including in LMICs (8).

What works? Interventions for addressing overweight and obesity in LMICs

The evidence-base for interventions to address OwOb that have been tested in LMICs is sparse and needs extensive attention by research and programmatic communities. A key characteristic of successful interventions for both adults and children in LMICs was that successful interventions involved multiple stakeholders and involved multiple components such as, diet quality, eating patterns, and physical activity (9-13).

In LMICs, current strategies to address OwOb include national health action plans and dietary guidelines that prioritize the prevention of OwOb and NCDs, and implementation or scaling up of universal health care plans. Fiscal strategies to address changes to the environment that may prevent OwOb include taxation of sugar-sweetened beverages and reformulation of some ultra-processed foods, with research from upper-middle income countries showing promising impacts of decreased purchase and consumption of these items (2).

What is the role of NGOS in addressing overweight and obesity in LMICs?

NGOs, which include community/local, national, and international NGOs, and other program implementers, are in a position to address OwOb within LMICs due to their often long standing in-country relationships, ability to advocate with governments, access to international funding and auxiliary resources, and common commitments to working with disadvantaged and hard to access populations. NGOs are often tasked with creating and implementing nutrition programs; however, they often lack specific guidance to address OwOb in contexts where historically their focus has been undernutrition.

We interviewed **29 experts** in global nutrition, health, economics, and policy (18 of whom provided perspectives from LMICs) for their insights on how NGOs may be better able to address OwOb within LMICs. From the interviews, 4 main roles of local, national, and international NGOs were reported: **1) nutrition programming strategies and policies, 2) advocacy and stakeholder engagement, 3) research partnerships and implementation, and 4) technical support.**

Within the international public health and nutrition communities, conditions of undernutrition can no longer be the sole focus of policies, programming, and interventions as the growing populations with overweight, obesity, and additional forms of malnutrition deserve both attention and resources.

Roles of NGOs and program implementers to address overweight and obesity in LMICs

1. Nutrition programming strategies and policies

Update current IYCF programs to address overnutrition

- Update IYCF programs already in place to address overnutrition, including adapting growth monitoring programs to monitor risk of excess weight gain in early childhood, and including counseling at prenatal visits to connect nutrition status during pregnancy to later health risks.

Prioritize schools and include adolescents

- Scale school feeding programs to meet the food security and nutrition needs of communities. Improve dietary quality of school meals by integrating local agriculture with local health and education systems.

Develop youth-led nutrition programming and include adolescents

- Nutrition programming led by youth creates individual autonomy and personal responsibility, and encourages engagement.

Prioritize and promote physical activity

- Develop and maintain spaces for physical activity in schools and urban settings. Prioritize resources to improve street safety, install and maintain sidewalks, and develop community green spaces.

Integrate cross-cutting nutrition education

- Integrate education about OwOb into existing programs, such as collaboration with the local agricultural industry to increase knowledge of local plant species that can be incorporated into the agricultural economy.

Target the food environment

- Create opportunities within the greater food environment to address OwOb, such as monetary incentives to food vendors near schools to sell nutrient-dense snacks or sell fruits and vegetables in pieces rather than bulk.

Develop and strengthen nutrition policies and financing

- Prioritize the integration of nutrition programs and policies to address OwOb into national health strategies. Seek and create support to maintain adequate financing so these programs and policies may continue.

2. Advocacy and stakeholder engagement

Advocacy is a critical tool available to NGOs for its ability to **raise awareness, understanding, and support** for OwOb programs and policies at local, national, and international levels. NGOs often have a seat at the stakeholder table. This can be **a powerful voice** for communities who are at risk of or already experiencing OwOb, and to voice actions useful to address OwOb within the community and cultural context. NGOs are **visible advocates for public health and nutrition**, and must be thoughtful in their actions to address OwOb.

3. Research partnerships and implementation

NGOs are often embedded within communities and countries for long periods of time, providing unique perspectives and forming long-standing relationships useful for identifying context-specific nutrition needs, and potential strategies to address them. Many NGOs may not themselves be a research organization, but by partnering with locally- or internationally-based research organizations, and other experts experienced in obesity research, NGOs may provide critical connections to help gather data needed to address public health priorities.

4. Technical support

NGOs can provide technical support to governments and other national entities to develop and implement national health strategies and legislation addressing OwOb. NGOs may bring expertise and experience from other countries to inform this process. In nutrition-related sectors, such as health, agriculture and education, NGOs may provide support and resources needed to build up these systems to better address OwOb.

RECOMMENDATIONS:

How to address overweight and obesity in LMICs by local, national, and international NGOs and program implementers

1. Generate data and add to the evidence base on OwOb in LMICs.
2. Prioritize the collection of biological, behavioral, and environmental indicators that may be associated with OwOb in nutrition surveys and surveillance tools
3. Apply implementation science methodology to current or future OwOb programming and policies to help determine which programs and policies are successful, or not.
4. Whenever possible, consider OwOb awareness and prevention in the design and implementation of nutrition programs and policies.
5. Actively challenge the stigma and negative perceptions associated with OwOb, and advocate for programs and policies that address the underlying biological, behavioral, and environmental determinants.
6. Form communities of practice for OwOb prevention and to maintain a central presence in global nutrition and health priorities

Conclusion

Addressing OwOb in the contexts of LMICs will require understanding of the conditions' complexity and awareness of their growing prevalence. It will also require moving away from pervasive viewpoints attributing OwOb to specific attitudes and individualistic behaviors, and towards examining how food systems and environments enable its biological and social behavioral determinants. A collaborative effort between NGOs and all relevant stakeholders is needed to truly address public health priorities in LMICs and is central to scalable and sustainable OwOb programming and policies.

This technical brief was generated by the Nutrition Working Group (NWG) of CORE Group. For questions or comments, please contact Jennie Davis at jnidavis@ucdavis.edu.

The full report can be found here.

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The authors would like to thank the 29 experts who contributed their insight, perspectives, and time to this project, as well as the peer-reviewer panel.

References

1. Murray CJL, Aravkin AY, Zheng P, Abbafati C, Abbas KM, Abbasi-Kangevari M, et al. Global burden of 87 risk factors in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019. The Lancet. 2020 Oct 17;396(10258):1223–49.
2. Shekar M, Popkin B. Obesity: Health and economic consequences of an impending global challenge. Washington, D.C.: World Bank Group; 2020.
3. United Nations Children's Fund (UNICEF), World Health Organization, International Bank for Reconstruction and Development/The World Bank. Levels and trends in child malnutrition: Key Findings of the 2020 Edition of the Joint Child Malnutrition Estimates [Internet]. Geneva: World Health Organization; 2020 [cited 2020 Oct 17]. Available from: https://data.unicef.org/resources/jme-report-2020/
4. Popkin BM, Corvalan C, Grummer-Strawn LM. Dynamics of the double burden of malnutrition and the changing nutrition reality. The Lancet. 2019 Dec 15;395(10217):65–74.
5. World Health Organization. WHO Fact Sheet: Obesity and overweight [Internet]. 2020 [cited 2020 Aug 10]. Available from: https://www.who.int/en/news-room/fact-sheets/detail/obesity-and-overweight
6. Victora CG, Adair L, Fall C, Hallal PC, Martorell R, Richter L, et al. Maternal and child undernutrition: consequences for adult health and human capital. The Lancet. 2008 Jan 26;371(9609):340–57.
7. Behrman JR, Hoddinott J, Maluccio JA. Nutrition, adult cognitive skills, and productivity: results and influence of the INCAP longitudinal study. Food Nutr Bull. 2020 Jun 1;41(1_suppl):S41–9.
8. Whiteford HA, Degenhardt L, Rehm J, Baxter AJ, Ferrari AJ, Erskine HE, et al. Global burden of disease attributable to mental and substance use disorders: findings from the Global Burden of Disease Study 2010. The Lancet. 2013 Nov 9;382(9904):1575–86.
9. Doak C. Large-scale interventions and programmes addressing nutrition-related chronic diseases and obesity: examples from 14 countries. Public Health Nutr. 2002 Feb;5(1a):275–7.
10. Liu Z, Xu H-M, Wen L-M, Peng Y-Z, Lin L-Z, Zhou S, et al. A systematic review and meta-analysis of the overall effects of school-based obesity prevention interventions and effect differences by intervention components. Int J Behav Nutr Phys Act. 2019 Oct 29;16(1):95.
11. Brown T, Moore TH, Hooper L, Gao Y, Zayegh A, Ijaz S, et al. Interventions for preventing obesity in children. Cochrane Database Syst Rev. 2019;7(Art. No.: CD001871).
12. Ells LJ, Rees K, Brown T, Mead E, Al-Khudairy L, Azevedo L, et al. Interventions for treating children and adolescents with overweight and obesity: an overview of Cochrane reviews. Int J Obes. 2018 Nov;42(11):1823–33.
13. Bleich SN, Vercammen KA, Zatz LY, Frelier JM, Ebbeling CB, Peeters A. Interventions to prevent global childhood overweight and obesity: a systematic review. Lancet Diabetes Endocrinol. 2018 Apr 1;6(4):332–46