Addressing overweight and obesity in the realm of rural development and food systems

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Aim of the study

Deliver a comprehensive and contextualized review of available evidence for LMICs showing what strategies and interventions have worked - or not - in dealing with overweight and obesity in rural and rural-urban transition ('rurban’) areas (last 10 years)

Main research questions

1. What are the drivers and causes of overweight and obesity in the food systems in the context of rural areas in LMICs?

2. What evidence is available on intervention strategies with the potential to prevent and/or reduce overweight and obesity in the different areas of the food system?
Study approach

- Comprehensive literature review
  - Peer reviewed articles
  - Drivers and causes of overweight and obesity in rural areas in LMICs
  - Intervention strategies overweight and obesity

- Systematic country mapping
  - 5 countries representing IFAD regions
  - Document review
  - Stakeholder consultation
  - Stakeholder mapping

Research paper
Findings on prevalence and drivers
Prevalence overweight and obesity in focus countries

Figure 1  Prevalence of overweight (%)
Children and adolescents, BMI > +1 standard deviations above the median (crude estimate) (%); adults BMI ≥ 25
Data: Children < 5: Bolivia, DHS 2008; Egypt, DHS 2014; Nigeria, DHS 2018; Zambia, DHS 2018; Indonesia, DHS 2017 (no data); Children >5, adolescents and adults: Global Health Observatory – WHO (2016)

Figure 2  Prevalence obesity (%) (BMI ≥30)
Data: Global Health Observatory – WHO (2016)
Obesogenic food systems

- Social-cultural factors: e.g., Perception and desirability of overweight, Prestige of unhealthy food
- Demographic factors: e.g., Urbanicity, Gender, Age
- Political and institutional factors: e.g., Policies to increase food supply, Resistance to regulate market, Policy inertia
- Economic and market factors: e.g., National per capita income, Income inequality
- Technology, innovation and infrastructure factors: e.g., Increasing use of technology
- Biophysical and environmental factors: e.g., Genetic predisposition, Exposure to environmental contamination

- Systems supporting food production: Ecosystems, Human systems, Energy systems, Economic systems, Health systems
- Food supply chains: Production systems, Storage and trade, Packaging and processing, Retail and marketing
- Consumer behaviors: Choosing where and what food to acquire, prepare, cook, store and eat, Awareness of impact of choices
- Diets: Quantity, Quality, Diversity, Safety, Adequacy
- Nutrition and health outcomes: e.g., Overweight and obesity
- Broader impacts: Economic, Social equity, Environment

Policy and governance

Availability – Access – Utilization – Stability – Agency – Sustainability

Right to Food framework
Drivers identified

Food supply chains
- Production systems
- Storage and trade
- Packaging and processing
- Retail and marketing

Consumer behaviors
- Choosing where and what food to acquire, prepare, cook, store and eat
- Awareness of impact of choices

Diets
- Quantity
- Quality
- Diversity
- Safety
- Adequacy

Nutrition and health outcomes e.g., overweight and obesity

Food environments
- Availability and physical access
- Affordability
- Acceptability
- Information, guidelines and advertising
- Food quality and safety
- Policy conditions
Urbanicity is associated with higher BMIs in LMICs

- Less need for physical activity (transport, occupation)
- Easier access to high calorie-foods

The difference is shrinking; rising rural BMI is the main driver of the global obesity epidemic in adults.

Overweight and obesity is increasingly a rural phenomenon
Findings on interventions
Policy context relating to O&O interventions

**Food and Nutrition Policies / Strategies**
1. Focus on optimize nutrition status, reduce stunting & wasting
2. Nutrition education & dietary habits
3. Nutrition services

**Non-Communicable Diseases and Health**
1. Overweight & obesity as modifiable behavioural risk factor for diet related NCDs
2. Improved nutrition / dietary habits
3. Improved health-nutrition services

**Agriculture and Food Security**
1. Food security / Right to Food
2. Nutrition sensitive value chains, incl. bio-fortified food
3. Dietary diversity in (household) production and consumption

Overweight/obesity emerging as theme
Intervention mapping - Food supply chain

### Production

**Encouraging nutrition sensitive agriculture for improved dietary diversity**
- Promotion of vegetable and fruit production, traditional & organic food production

**Encouraging bio-fortified food production (strategy to fill the nutrient gaps)**
- Vit A, Zinc, iron, other (staple foods)

**Encouraging household production**

### Transport, trade, packaging, processing and sales

**Encouraging setting or reviewing food standards**
- Regulations for reducing salt, sugar, (trans)fat

**Encouraging Fortification**
- Iron, Iodine Vit A

**Encouraging taxation**
- Sugar tax

**Encouraging provision or reviewing food labelling**
- Food or nutrition facts labelling

**Update Food Composition Tables**
- Inclusion 'new', processed foods
**Food Environment**

- **Encourage food availability and access to food for selected groups**
  - *Food Subsidies, School Feeding & School gardening*

- **Encourage provision of information and guidelines**
  - *School food environments*
  - *Referral schemes*

- **Encourage conducive policy conditions**
  - *Multisectoral policy action & advocacy*

**Consumer behaviour**

- **Encourage awareness about what food to acquire and where**
  - *Campaigns (public, work place, community)*
  - *Food consumption surveys*
  - *Healthy lifestyle as business opportunity*

- **Encourage good practices in food handling**
  - *Guidance in food preparation on dietary moderation (Food based Dietary Guidelines)*

- **Raise awareness of impact of food and lifestyle choices**
  - *Healthy active lifestyle*
There is limited evidence for the effectiveness of interventions in the food system

- Direct evidence on the relationships between food system-related interventions and overweight prevalence is scarce. Prevalence of overweight and obesity not consistently and systematically being monitored does not help.
- Food system-related interventions apply traditional approaches such as food package labelling, price manipulation, and changing the food environment.
- Behaviour change strategies such as nutrition education and awareness play a key role in addressing overweight and obesity.

Photo credit: World Obesity Federation
Combined interventions are more likely to be successful

- Overweight and obesity reduction are highly complex issues that cannot be tackled by any individual intervention.
- Successful interventions that can deliver long-term impacts are usually the ones with multi-level, multi-setting and multi-component arrangements, aiming at both individual behaviour change and food environment improvement, backed up by effective policies and regulations.
**Conclusions**

- Overweight and obesity being on the rise in rural areas is not yet recognized as a unique pattern. The specific dimensions of overweight and obesity among rural populations (as opposed to more urban populations) are not yet well understood. More data and research are needed to answer these hypotheses.

- The food and nutrition security agenda is still focused largely on undernutrition and micronutrient deficiencies, not reflecting an actionable agenda on the triple burden of malnutrition.
Conclusions

- More food environment and food choice research in LMICs and rural areas is needed to have a better understanding of the determinants of food choices and physical activity could help identify opportunities to make food systems less obesogenic.

- More effort is needed to build an understanding about existing programmatic interventions tackling obesity through agriculture and food systems transformation and their effectiveness.
Suggestions on a way forward

- Strengthening partnerships (research and practice) with a focus on food environment and consumption. Promoting healthy diets and physical activity are two overarching strategies that are used to address NCD.

- Embrace healthy diets. “Healthy diets” can serve as a linking pin between actions geared towards under- as well as overnutrition, and can serve to bridge between agricultural and health driven intervention strategies.

- Explore and engage in new, maybe unorthodox, partnerships, to support
  - scaling up nutrition initiatives (SUN, GAIN),
  - engagement with the private sector on pricing, processing, marketing and advertisement practices, and
  - brokerage of partnerships among development actors to raise awareness, support policy analysis and agenda setting on the triple burden of malnutrition.
Thank you for your attention

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Overweight and obesity and its linkages to food systems

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IFAD Webinar, June 2023
Main messages

• **Global obesogenic drivers** (especially ultraprocessed food system) increase obesity in all countries

• **Local obesogenic moderators** create wide variations in prevalence and rates of increase of obesity

• **The Obesity Transition** describes the relatively stereotypical patterns of increases in obesity by sub-populations

• **Malnutrition in all its forms** as the biggest global risk factor

• **The Global Syndemic** of obesity, undernutrition, climate change

• **Policy Inertia** prevents policy implementation

• **Collective Action** is needed to reverse the Global Syndemic
The prevalence of overweight and obesity is increasing in all Member States

<table>
<thead>
<tr>
<th>Average projected prevalence (pp) increase in 2018-2025 (%)</th>
<th>Projected country trends in 2018-2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child overweight (aged 0-5 years)</td>
<td>Countries trending positively</td>
</tr>
<tr>
<td>+0.2pp</td>
<td>91 Member States</td>
</tr>
<tr>
<td></td>
<td>Countries trending negatively</td>
</tr>
<tr>
<td>Child Obesity (aged 5-19 years)</td>
<td>41%</td>
</tr>
<tr>
<td>+1.7pp</td>
<td>-59%</td>
</tr>
<tr>
<td></td>
<td>63 Member States</td>
</tr>
<tr>
<td>Adult obesity (aged +18 years)</td>
<td>190 Member States</td>
</tr>
<tr>
<td>+2.3pp</td>
<td>-100%</td>
</tr>
</tbody>
</table>

Prevalence is expected to increase on child overweight, child and adult obesity indicators between 2018 - 2025...

...with ~167million people expected to be LESS HEALTHY, affecting all Member States
Regional changes in obesity since 1975 NCD-RisC Lancet 2016, 2018

Women

Girls

Figure 4: Trends in age-standardized prevalence of BMI categories in women by region. See appendix (s02-s03) for results by country and body mass index.

OW + obesity
Ultra-processed foods and drinks: Stubbornly high or increasing

Vandevijvere S. Obes Rev. 2019 20 Suppl 2:10-19

**UPF system**: Global, increasing, highly profitable, concentrated market, wields large political power, exploits human vulnerabilities, displaces real foods, creates inequities
Determinants of obesity
(Swinburn et al Lancet 2011)

Drivers
Changes over time drive changes in outcomes over time

Moderators
Factors which accentuate or attenuate the trends

eg socio-cultural factors, built environment, governance context

Mediators
Factors through which the drivers operate

eg changes in food environments, screen environments

Outcomes
Changes in obesity prevalence

eg changes in wealth, TNC power, political economies, globalisation, technology, UPF system
The Obesity Transition
Jaacks L et al Lancet Diabetes Endocrinology 2019
Lancet Commission on Obesity, 2019

26 Commissioners, 17 Fellows, 14 countries, 29 disciplines, 4 years
Lancet Commission – main concepts

• The Global Syndemic of Obesity, Undernutrition and Climate Change
  – Greatest health challenge of the 21st Century
• Syndemic is a synergy of epidemics
  – Co-occur in time & place
  – Negatively interact
  – Have common drivers

• Size of malnutrition in all its forms
• Joining up with climate change
• ‘Policy inertia’
• Civil society mobilisation
• Double/triple-duty actions
• Systems thinking, systems science
• Indigenous/traditional approaches
• Centrality of natural systems the political economy
• Accountability systems
• Human Right to Wellbeing
• Socio-cultural determinants & actions
• Research priorities
Malnutrition in all its forms

- **High BMI**: Increasing in almost all countries
- **Dietary risks**: (15 diet patterns eg low in whole grains, F&V etc; high in Na, sugar etc). Increases especially in low and middle income countries
- **Maternal & child undernutrition**: Slow declines

### Graphic Representation

- **Global**
- **High**
- **High-middle**
- **Middle**
- **Low-middle**
- **Low**

Disability-adjusted Life Years lost (%)

- **Global**
- **High**
- **High-middle**
- **Middle**
- **Low-middle**
- **Low**
What needs to be done to prevent obesity?

But implementation is very patchy
Policy Inertia on implementing policies

1. Industry opposition
   - Conversion of economic power to political power (lobbying)
   - Create the regulatory and economic conditions to maximise corporate profits

2. Government reluctance to regulate/tax
   - Corrupt or weak governance systems, conflicts of interest
   - Unwilling to battle food industry (chill effect)

3. Lack of public demand for policies
   - Usually supportive of policy actions
   - Not translated into pressure for change
Civil society mobilisation

Food Policy Program

The Bloomberg Philanthropies' Food Policy Program has committed over $435 million to help public health advocates and experts promote healthier diets through policy change. This is an urgent global challenge: 8 million deaths are attributed to poor diets annually. Between 1990 and 2019, there was a 128% increase in mortality from being overweight. The good news is that the problem is preventable – and Bloomberg Philanthropies is supporting the
¿Les darías 12 cucharadas de azúcar?

Summary of Key Elements of the Mexico SSP Tax Campaign

2a. Population with dental caries experience (dmft>0)

2b. Population with dental caries experience (DMFT>0)

- Population with dental caries experience
- Predicted

Hernandez M Caries Research 2021
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- **The Obesity Transition** describes the relatively stereotypical patterns of increases in obesity by sub-populations
- **Malnutrition in all its forms** as the biggest global risk factor
- **The Global Syndemic** of obesity, undernutrition, climate change
- **Policy Inertia** prevents policy implementation
- **Collective Action** is needed to reverse the Global Syndemic
Ngā mihi nui
Thank you very much