Dietary diversity in women of reproductive age

Estefanía Custodio, PhD., Scientific Officer
European Commission Joint Research Centre
The importance of diet

• Poor dietary habits have been consistently identified as one of the leading risk factors for ill health and mortality globally over the last 30 years.

• In 2017 poor diets were associated with nearly 1 in 5 of all deaths*.

• Yet, diet quality is not reflected in any of the Sustainable Development Goals indicators

*The Lancet, volume 392, issue 10159, November 10, 2018
Understanding diet

- **Women of reproductive age (WRA)** are particularly vulnerable to **micronutrient malnutrition**
- Measuring micronutrient deficiencies or dietary intake by "gold standard" methods is **complex and costly**
- Strong and rising demand for **simple indicators** to reflect at least some aspects of food intake and/or dietary quality
- **Dietary diversity indicators** developed based on rigorous scientific work
What are the dietary diversity indicators?

• **Simple counts** of foods or food groups consumed

• Recall period, **usually 24 hours**

• Food groups **can be more or less aggregated**

• Some have **thresholds**, others do not

• Dietary diversity at **individual level** reflects one dimension of **diet quality**
### Dietary diversity indicators

**Table 1. Simple household dietary diversity indicators**

<table>
<thead>
<tr>
<th></th>
<th>HDDS*</th>
<th>IYCF MDDb</th>
<th>WDDSc</th>
<th>MDD-Wd</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Population sampled/unit of analysis</strong></td>
<td>Households</td>
<td>Infants and young children aged 6–23 months</td>
<td>Women aged 15–49 years</td>
<td>Women aged 15–49 years</td>
</tr>
<tr>
<td><strong>Validated against</strong></td>
<td>Kilocalorie availability as assessed in household-level consumption surveys</td>
<td>Micronutrient density compared with desirable density for complementary foods, assessed by 24-hour recall or weighed food records</td>
<td>Micronutrient adequacy assessed by multiple 24-hour recalls</td>
<td>Micronutrient adequacy assessed by multiple 24-hour recalls</td>
</tr>
<tr>
<td><strong>Meaning</strong></td>
<td>Proxy for household-level access to kilocalories (dietary energy),</td>
<td>Proxy for the adequacy of the micronutrient density of infant and young child</td>
<td>Proxy for the probability of micronutrient adequacy of women’s diets</td>
<td>Proxy for the probability of micronutrient adequacy of women’s diets</td>
</tr>
</tbody>
</table>

- **HDDS**: No nutritional meaning
- **2008**
- **2010**
- **2014**

WDDS and micronutrient adequacy
Women's Dietary Diversity Project I (2005-2010)

"MPA" is probability of adequacy averaged across 11 micronutrients

Arimond et al., Women's Dietary Diversity Project, J Nutr. 2010
From WDDS to MDD-W
Women's Dietary Diversity Project II (2012-2014)

Two options for the construction of the dichotomous indicator

<table>
<thead>
<tr>
<th>FGI-9</th>
<th>FGI-10</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 All starchy staples</td>
<td>1 All starchy staples</td>
</tr>
<tr>
<td>2 All legumes and nuts</td>
<td>2 Beans and peas</td>
</tr>
<tr>
<td>3 All dairy</td>
<td>4 All dairy</td>
</tr>
<tr>
<td>4 Organ meat</td>
<td>5 All dairy</td>
</tr>
<tr>
<td>flesh food and miscellaneous small animal protein</td>
<td>6 Eggs</td>
</tr>
<tr>
<td>5 Other Vitamin A-rich dark green leafy vegetables</td>
<td>7 Vitamin A-rich dark green leafy vegetables</td>
</tr>
<tr>
<td>8 Other Vitamin A-rich vegetables and fruits</td>
<td>9 Other fruits and vegetables</td>
</tr>
<tr>
<td>9 Other fruits and vegetables</td>
<td>10 Other fruits and vegetables</td>
</tr>
</tbody>
</table>
MDD-W definition

The proportion of women 15-49 years of age who consumed food items from at least five out of ten defined food groups the previous day or night

1. Grains, white roots and tubers, and plantains
2. Pulses (beans, peas and lentils)
3. Nuts and seeds
4. Dairy
5. Meat, poultry and fish
6. Meat, poultry and fish
7. Eggs
8. Dark green leafy vegetables
9. Other vitamin A rich fruits and vegetables
10. Other fruits
MDD-W interpretation

• Higher prevalence of MDD-W is a proxy for better micronutrient adequacy among the WRA population surveyed

• The groups of WRA where there is a high proportion of women consuming 5 or more of the 10 pre-defined food groups are more likely to have micronutrient adequacy
MDD-W limitations

• Reflects **only one** dimension of diet quality
• Does **not reflect** the **quantities** of nutritious foods consumed or **other dimensions** like moderation or balance/quality of macronutrients
• Is **not** appropriate for **individual screening**
• Should **not** be used as basis for dietary guidelines or communication messages
• **Not** single indicator is **sufficient for everything**
MDD-W opportunities

• Can be used for assessments of diet quality at national and subnational levels in resource poor settings
• Suitable for integration into large-scale surveys
• Can be compared with previous assessments, so long as survey timing accounts for seasonality and same baseline and end line surveys are used
• It can fill the gap of a food-based indicator for use in target setting, advocacy and impact evaluation of nutrition sensitive actions
• Can inform on effective policy and improving diets and nutrition of women of reproductive age.
MDD-W The Status

FAO-EU workshop MDD-W: The status and the opportunities. Bangkok 27th-28th November
MDD-W support documentation
THANK YOU!
estefania.custodio@ec.europa.eu