

# TOWARDS A UNIVERSAL INDICATOR OF DIETARY DIVERSITY FOR ALL WOMEN?

## PRELIMINARY VALIDATION OF THE MDD-W INDICATOR FOR PREGNANT WOMEN

Nutrition Research Facility - October 2023

Poor maternal diet quality can affect children's health, especially during the first 1,000 days of life (from conception until a child's second birthday), increasing the risk of detrimental maternal and infant outcomes and of obesity and diet-related non-communicable diseases later in life. **Promoting diverse diets among women of reproductive age is thus key to improving nutrition of mothers and children and can support the achievement of the Sustainable Development Goals and the World Health Assembly global nutrition targets for 2030.** In order to have a simple, common and comparable way to measure the dietary diversity of women of reproductive age, FAO and partners developed the minimum dietary diversity for women (MDD-W) indicator<sup>1</sup>, launched in 2015.

As part of the Knowledge and Research for Nutrition project of the European Commission, the **Nutrition Research Facility conducted an analysis of secondary data from available dietary surveys to assess the validity of this indicator as a proxy to reflect the micronutrient adequacy of the diet of pregnant women, who are facing an additional demand for nutrients to support both foetal growth and maternal metabolism.**

### MDD-W: a reference indicator for measuring dietary diversity among women of reproductive age

This population-level dichotomous indicator measures the proportion of women 15-49 years of age who consumed food items (at least 15g) from at least five out of the ten defined food groups (figure 1) the previous day and night.

The MDD-W indicator has been shown to reflect the mean probability of micronutrient adequacy across 11 micronutrients: vitamin A, thiamine, riboflavin, niacin, vitamin B-6, folate, vitamin B-12, vitamin C, calcium, iron and zinc<sup>2</sup>. In other words, in a given population of women of reproductive age, the higher the MDD-W, the higher the probability that women have adequate micronutrient intakes.

The MDD-W indicator can be used for tracking changes in diets, comparing diets and evaluating the impact of policies, programmes and interventions.



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<sup>1</sup>FAO. 2021. Minimum dietary diversity for women. An updated guide for measurement: from collection to action. Rome. <https://doi.org/10.4060/cb3434e>

<sup>2</sup>Martin-Prevel, Y., Allemand, P., Wiesmann, D., Arimond, M., Ballard, T., Deitchler, M., Dop, M., Kennedy, G., Lee, W. & Moursi, M. 2015. Moving forward on choosing a standard operational indicator of women's dietary diversity. Rome, FAO. Available at <http://www.fao.org/3/a-i4942e.pdf>

Figure 1. The ten food groups used in the MDD-W indicator, defined according to their nutrient content



## Expanding the applicability of MDD-W to pregnant women

To date, the MDD-W indicator has not been validated for pregnant women who face an additional demand for nutrients to support both foetal growth and maternal metabolism. The study carried out by the Nutrition Research Facility<sup>3</sup> explored the ability of the current version of the MDD-W indicator to reflect the higher micronutrient adequacy in pregnant women aged 15-49 years at the population-level in low- and middle-income countries.

Using secondary data from six quantitative dietary surveys conducted in Bangladesh, Burkina Faso, India and Nepal, totalling 4,909 pregnant women (figure 2), the authors examined the probability of meeting a minimum level of nutrient adequacy using the same methodology as the one used for the development and validation of the MDD-W indicator.

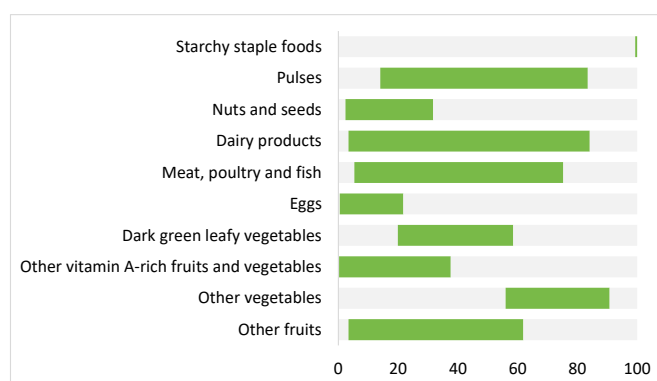


Figure 2. Range of the proportion of pregnant women who have consumed food from each of the ten groups the previous day within the six surveys analysed in the study

## Preliminary results show that the MDD-W indicator seems valid for pregnant women

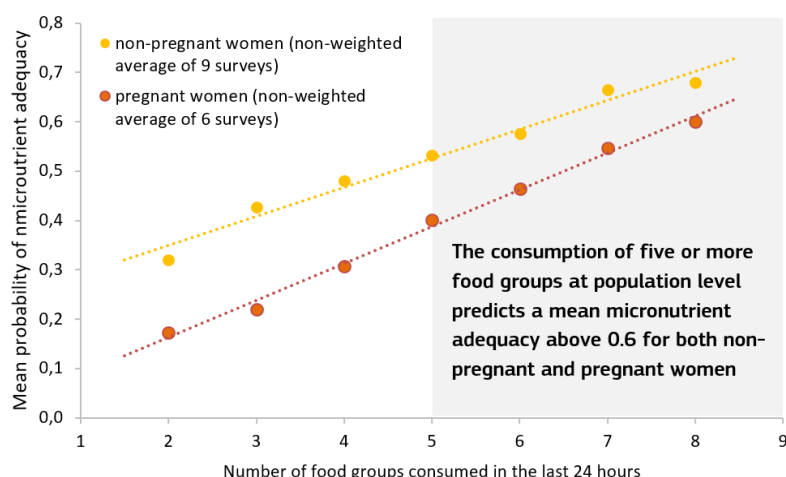


Figure 3. Comparison, between pregnant and non-pregnant women, of the mean probability of micronutrients adequacy depending on the number of food groups consumed

Just like for non-pregnant and lactating women, the authors of the study found that in the pooled sample, the cut-off of five food groups had the best performances in predicting a mean probability of adequacy above 0.6 across the same 11 micronutrients (figure 3).

These results suggest that the MDD-W indicator could be considered valid for all women of reproductive age, including pregnant women, and used with the same recommendations. Consequently, the data collection methods established for MDD-W assessment remain applicable for pregnant women.

Nevertheless, due to the rather limited number of settings and individuals analysed in the study, these findings would need to be confirmed through further investigations using a larger number of datasets from a more diverse range of contexts.

<sup>3</sup> Assessment of Minimum Dietary Diversity for Women (MDD-W) as a proxy of dietary micro-nutrient adequacy among pregnant women in low-and middle-income countries. Nutrition Research Facility. May 2023. Available at: <https://www.nutrition-research-facility.eu/IMG/pdf/nrf-mdd-w-pregnant-women-may-2023.pdf>