



Minimum Dietary Diversity for Women

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Due to the physiological demands of pregnancy and lactation, women of reproductive age (WRA) are frequently at risk for nutritional deficiencies. According to the World Health Organization (WHO)/Food and Agriculture Organization of the United Nations (FAO), 2004 and the National Research Council (2006), pregnant and breastfeeding women have greater dietary requirements than adult men. Except for iron, needs for Women outside of pregnancy and lactation may be the same as or less than those of adult male. As women may consume fewer calories, they need a diet higher in nutrients (Torheim and Arimond, 2013). Breastfeeding mothers and their unborn children may suffer from inadequate dietary intakes before, during, and after pregnancy. There are gaps between intakes and requirements for a range of micronutrients (Arimond et al., 2010; Lee *et al.* 2013).

Such weaknesses and deficiencies in the quality of the diet have long been known. However, there hasn't been much systematic effort in response to decades of calls to enhance the nutrition and quality of women's diets. One of the main obstacles in the past has been the lack of effective platforms and programs that target teenage girls and WRA outside of prenatal care. Another obstacle has been a lack of indicators to enable advocacy, accountability, and assessment.

One strategy to improve micronutrient nutrition for WRA is to promote diverse diets; in settings where other strategies, such as supplementation, biofortification, and/or fortification, are used, additional diet quality indicators would be required. Moreover, there are multiple aspects to diet quality. Apart from sufficient intake of micronutrients, balanced intake of protein, carbs, and fats (Institute of Medicine, 2005) and moderation in specific food consumption - low in nutrient density and linked to higher risks of chronic illness (George *et al.*, 2014) - are characteristics of high-quality diets.

What is MDD-W

Minimum Dietary Diversity for Women (MDD-W) is a dichotomous indicator of whether or not women for 15-49 years of age have consumed at least five out of ten defined food groups the previous day or night. The higher percentage fulfilling this criterion, the greater the adequacy in vitamins and minerals in women's diets. MDD-W reflects dietary diversity among women of reproductive age. MDD-W is simple to collect and can be used to shed light on diet quality.

Food group diversity indicators and food-based dietary guidelines

Food group diversity indicators	Food-based dietary guidelines
1. These are tools for assessing the variety of foods in a diet.	These are recommendations provided by government or health authorities to promote healthy eating and guide food choices.

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| <p>2. These are quantitative measures used to assess dietary diversity without specific dietary recommendations.</p> | <p>These are typically presented in the form of food pyramids, plates, or other visual aids.</p> |
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Description of food groups

Selection of food groups is based on grouping foods that are nutritionally similar or serve similar roles in the diet.

Food groups in MDD-W	Description	Examples
1. Grains, white roots & tubers and plantains (Starchy staples)	Provides energy, varying amounts of micronutrients (like certain B vitamins)	Breads, maize, sorghum, millets, potatoes etc
2. Pulses	Contains high protein and B vitamins	Beans, chickpea, pigeon pea, Lentils etc
3. Nuts and Seeds	Rich in unsaturated fatty acids, vegetable protein, fibre, minerals and phenolic compound	Chestnut, cashew, almond, walnut etc.
4. Dairy	Rich in high quality protein, potassium, calcium, vit. B ₁₂ etc	Milk, cheeses and yoghurt, and kefir.
5. Meat, Poultry and Fish	Rich in iron, zinc and vit. B ₁₂	Flesh and processed meat
6. Eggs	Good source of protein, Vit. B ₁₂ and micronutrients	Eggs from different birds
7. Dark green leafy vegetables	Rich in vitamin A, folate and micronutrients	Broccoli, lettuce, spinach, kale etc.
8. Other Vit. A -rich fruits and vegetables	Includes fruits and vegetables that are good source of Vit. A	Carrot, pumpkin, Squash, apricot, mango etc
9. Other vegetables	Includes legumes when the fresh/ green pod is consumed and stems of plants	Beans, bamboo shoots, cabbage, cauliflower etc
10. Other fruits	Includes most fruits excluding Vit. A rich fruit	Blueberry, coconut, guava, grapes etc

Measurement of Food Group Diversity

There are two main methods to measure food group diversity:

1. Open Recall Based Method- In this, enumerator asks a series of standard probing questions from the respondent.

Here, recall period is for 24 hours when the respondent awoke the previous day

2. List Based methods- In this method, enumerator read a list of foods and beverages to the respondent.

Respondents have to say 'yes' or 'No' for the list of food in this method.

Essential decisions for measurement of dietary diversity

For accurate and meaningful measurement, women of target age (15-49 years) should be selected. Data should be collected on all days of the week as people's eating patterns vary by

day. Feast days, celebration or days when individuals consume more than usual days should be included. Comparisons should be made between surveys conducted in the same season.

Preparation of MDD-W questionnaire: First ensure about data collection materials and customized the list of food items related to that populations. Then, we decide whether to use an open recall or list-based methods for collecting information on food and beverages consumption. After that, we focus on the content of MDD-W questionnaire. Questionnaire is adapted to reflect cultural norms, vocabulary and locally available foods. After that, Pilot studies is done for practicing. A pilot study is a practice of all the survey steps, from start to finish, including all survey modules and procedures. Interviews are frequently conducted with a convenience sample of about 50 respondents, and the responses are coded and analysed. The questionnaire's final revisions are made, questions that are unclear are changed, and issues with administering the questionnaire are fixed.

Enumerator Selection and Training: Enumerator selection is crucial for data collection. He must have survey experience and good knowledge of nutrition. Training of enumerator includes classroom instruction, discussion and field practices. Enumerator should be trained how to deal with mixed dishes and condiments. Practice should be done for carrying out the open recall.

Conclusion

MDD-W is an important tool used in assessing the nutritional status of women based on consumption of food groups. A model questionnaire is designed to collect data. The responses to the question are used to determine a woman's dietary diversity. Questionnaire should be adaptable to the population which is being surveyed. Enumerators should be selected and trained carefully. After collection of data, it is analysed and interpreted

References

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