Subject: Mass food fortification
Posted by HelenaPachon on Fri, 04 Apr 2014 13:48:48 GMT
View Forum Message <> Reply to Message

The Flour Fortification Initiative (FFI); US Centers for Disease Control and Prevention (CDC); Strengthening Partnerships, Results, and Innovations in Nutrition Globally (SPRING) Project; Emory University; International Foundation for Spina Bifida and Hydrocephalus (IF); Micronutrient Initiative (MI); Global Alliance for Improved Nutrition (GAIN); and World Health Organization (WHO) endorse the addition of a question to the DHS core/model questionnaire to assess household utilization of foods that are the focus of mass fortification efforts worldwide: wheat flour, maize flour, rice, oil and sugar. This question will complement the existing DHS question (140) on salt fortified with iodine.

1. What is the information needed?

Mass food fortification is widely considered a priority intervention for preventing micronutrient malnutrition, reducing folate-preventable congenital anomalies, and preventing nutritional anemia, among others (WHO/FAO 2006, Bhutta 2008, Copenhagen Consensus 2008).
For instance, food fortification can contribute to the aim of a 50% reduction of anemia in women of reproductive age by 2025, one of the six global targets for improving maternal, infant and young child nutrition that WHO's Member States have endorsed and are committed to monitoring progress (WHO 2014). The targets are vital for identifying priority areas for action and catalyzing global change.

The World Health Organization is in the process of generating new fortification guidelines (e.g., rice) or updating existing fortification guidelines for several foods (e.g. wheat flour, maize flour, edible oils and fats, sugar, salt) (Peña Rosas 2012). Seventy-eight, twelve and five countries mandate fortification of wheat flour, maize flour and rice, respectively (FFI 2014a). Recognizing that diets are becoming diversified, more and more countries are fortifying multiple foods with multiple nutrients. For example, Costa Rica fortifies wheat flour (with iron, folic acid and vitamins B1, B2, B3), maize flour (with iron, folic acid and vitamins B1, B2, B3), rice (with folic acid, vitamins B1 and B12, zinc, selenium), liquid and powder milk (with iron and vitamin A), salt (with iodine) and sugar (with vitamin A) (Barboza Arguello 2011; FFI 2014b; Reynaldo Martorell, Emory University, personal communication).

Currently, large surveys such as DHS and MICS (UNICEF 2014) only assess one fortified food: salt. These large, periodic surveys are the only way to get information on food-fortification program implementation on a global scale. This critical gap can be addressed by adding a question to the DHS core/model questionnaire. Specifically, one way to assess implementation of food fortification is through "utilization" as defined by WHO/FAO (2006): "the number or proportion of targeted households in which fortified product is present".

Generally, for rice, oil and sugar, respondents can be asked directly about their purchase of these foods. However, to determine the utilization of wheat flour and maize flour, it is necessary to have information about food items that contain proportionately large amounts of flour. This is because in many countries, households do not use flour to prepare foods in the home. Instead, most flour is used by the food industry to create food products (e.g. breads, crackers, noodles, cookies) that households purchase. In Indonesia, for example, 90% of total wheat flour production is used by

food companies (Philip Randall, PCubed, personal communication).

2. What questions will elicit this information?

One question will elicit the utilization of fortified foods or foods that could potentially be fortified (table below). In the third column with response options, these are illustrative examples in a hypothetical country for priority wheat-flour containing foods (bread, pasta, wheat flour) and maize-flour containing foods (masa flour, grits, maize flour).

141 IN THE PAST 7 DAYS, DID ANYONE IN YOUR HOUSEHOLD PURCHASE: YES NO
BREAD..... 1 2
PASTA..... 1 2
WHEAT FLOUR..... 1 2

MASA FLOUR..... 1 2
GRITS..... 1 2
MAIZE FLOUR..... 1 2

RICE..... 1 2
OIL..... 1 2
SUGAR..... 1 2

In each country, an adaptation should be made in identifying the foods (from most to least consumed) predominantly made with wheat flour (e.g., bread and pasta in the table above) and maize flour (e.g., corn bread and grits in the table above). If the flour itself is used in households for cooking, it should be ranked along with other flour-containing foods in determining the list (e.g., wheat flour and masa and maize flour in the table above). Further, in countries with mandatory flour fortification, the food products listed should be those that are prepared with wheat flour or maize flour that is supposed to be fortified. For example, in Indonesia the prioritized list of foods containing fortified wheat flour would be instant noodles, sweet bread and biscuits (Saliem & Kustiari 2010). In Jordan, the comparable list for fortified wheat flour would be Kmahge/Arabic bread, Mashrooh bread and Taboon bread (Jordan Ministry of Health 2011).

This question has been used in previous surveys as it is similar to the language used in household consumption and expenditure surveys (Fiedler 2012). For example:

• The 2006 Kenya Integrated Household Budget Survey (http://catalog.ihsn.org/index.php/catalog/1472): Over the past one week (7 days) did the household acquire/purchase/consume any (food item)?
• The Tanzania 2010/11 National Panel Survey (http://catalog.ihsn.org/index.php/catalog/2596/related_mater ials): In the past 7 days did the members of this household eat/drink any (food item) within the household?
• The Peru 2010 National Survey of Households about Living Conditions and Poverty (http://catalog.ihsn.org/index.php/catalog/3976): In the past 15 days did you or any member of your household obtain, consume, purchase or receive free-of-charge any (food item)?
• The 2007-2008 Pakistan Social and Living Standards Condition Survey (http://catalog.ihsn.org/index.php/catalog/3531): Did any household members consume any (food

item) during the last 14 days?

3. How will the resulting information be used?

The data will be used in three main ways:
• To assess the status of a country's food fortification program: is it reaching the expected population (e.g. after stratifying households by urban/rural residence, geographic region, and wealth quintile)?
• After two or more surveys have been gathered, the data can be used to assess the progress of a country's food fortification program: is the percentage of households with fortified products in their homes increasing or decreasing over time?
• For countries that do not fortify, the data can be used to assess the potential of a food fortification program: how many households could be reached through fortification of specific foods?

At a minimum, three stakeholder groups will use these data:
• Leaders of countries' food fortification programs. They will use this information to determine if the program is having the intended reach and to make adjustments to the program accordingly.
• Leaders who want to advocate for food fortification in their countries. They will use this information to determine what proportion of the population and which segments thereof could benefit from fortification of specific foods.
• International organizations that support food fortification (e.g. CDC, FAO, FFI, GAIN, Helen Keller International, MI, Project Healthy Children, SPRING, UNICEF, USAID, WHO). They will use this information to ascertain global trends in food fortification, to offer technical assistance to countries, and to organize country level and regional workshops to address fortification obstacles. For the first use, for example, the Flour Fortification Initiative will add wheat flour, maize flour and rice utilization information to its widely cited global database on grain fortification and post country specific information to country profiles (http://www.ffinetwork.org/country_profiles/).

The data should be tabulated for each food separately:

• Numerator: Number of households that respond Yes/1 to question 141.
• Denominator: Total number of households that answered question 141.

The data should be presented in the final report as follows; this table is modeled after the Kyrgyz Republic's 2013 DHS report (NSC 2013):

Table X (Fortified) foods purchased in the household in the 7 days preceding the interview

	Wheat flour			Maize flour			Rice			Sugar			Oil		
Number of households	Food 1	Food 2	Food 3	Food 1	Food 2	Food 3	Food 1	Food 2	Food 3	Food 1	Food 2	Food 3	Food 1	Food 2	Food 3
Residence															
Urban															
Rural															
Region															
1															
2															
3															

etc.
Wealth quintile
Lowest
Second
Middle
Fourth
Highest
Total

4. What is the priority of the suggested additions compared with what is already in the questionnaires?

Currently, no questions on wheat flour, maize flour, rice, sugar or oil fortification are in the DHS core/model questionnaire to revise or delete.

5. Not applicable

6. Should the additional data be collected in all countries, or only in selected types of countries?

The data should be collected in all countries. In those that mandate food fortification, the data will inform program progress and success. In those countries that do not mandate food fortification, the data will inform fortification feasibility assessment, advocacy, programming, targeting and goal-setting.

References:

Barboza Argüello MP et al. Impacto de la fortificación de alimentos con ácido fólico en los defectos del tubo neural en Costa Rica. Revista Panamericana de Salud Pública. 2011;30(1):1-6. Available at: http://www.scielosp.org/pdf/rpsp/v30n1/v30n1a01.pdf Viewed 4 April 2014.

Bhutta ZA et al. What works? Interventions for maternal and child undernutrition and survival. Lancet 2008;371:417-40. Available at: http://www.thelancet.com/series/maternal-and-child-undernutr ition Viewed 1 April 2014.

Copenhagen Consensus. Copenhagen Consensus 2008. Available at: http://www.copenhagenconsensus.com/copenhagen-consensus-2008 /outcomes Viewed 1 April 2014.

Fiedler JL et al. Household Consumption and Expenditure Surveys (HCES): a primer for food and nutrition analysts in low- and middle-income countries. Food and Nutrition Bulletin 2012;33(supplement):S170-84. Available at: http://nsinf.publisher.ingentaconnect.com/content/nsinf/fnb/ 2012/00000033/a00203s2;jsessionid=2m9oah99m7no2.alice Viewed 3 April 2014.

Flour Fortification Initiative (FFI). Global progress. Available at: http://www.ffinetwork.org/global_progress/index.php Viewed 31 March 2014a.

Flour Fortification Initiative (FFI). Database. Atlanta: Flour Fortification initiative, 2014b.

Jordan Ministry of Health, GAIN, CDC, UNICEF. National micronutrient survey Jordan 2010. Amman: Jordan Ministry of Health, 2011. Available at: http://www.gainhealth.org/performance/national-micronutrient -survey-jordan Viewed 3 April 2014.

National Statistical Committee of the Kyrgyz Republic (NSC), Ministry of Health [Kyrgyz Republic], and ICF International. Kyrgyz Republic Demographic and Health Survey 2012. Bishkek, Kyrgyz Republic, and Calverton, Maryland, USA: NSC, MOH, and ICF International, 2013. Available at: http://www.dhsprogram.com/pubs/pdf/FR283/FR283.pdf Viewed 31 March 2014.

Peña-Rosas JP et al. Translating research into action: WHO evidence-informed guidelines for safe and effective micronutrient interventions. Journal of Nutrition 2012;142:197S-204S. Available at: http://jn.nutrition.org/content/142/1/197S.long Viewed 3 April 2014.

Saliem HP, Kustiari R. Situation and trends of wheat flour consumption in Indonesia: analysis of Susenas food consumption data (1996-2008). Jakarta: Ministry of Agriculture, 2010.

UNICEF. Multiple Indicator Cluster Surveys-round 3. Available at: http://www.childinfo.org/mics3.html Viewed 1 April 2014.

WHO. Global targets 2025. Available at: http://www.who.int/nutrition/topics/nutrition_globaltargets2 025/en/ Viewed 4 April 2014.

WHO/FAO. Guidelines on food fortification with micronutrients. Geneva: WHO, 2006. Available at: http://www.who.int/nutrition/publications/guide_food_fortifi cation_micronutrients.pdf Viewed 1 April 2014.

File Attachments

1) Proposed fortification question to add to DHS_4 Apr 2014.docx, downloaded 1185 times