Household share of energy consumed from non-staples

Overview

The household share of dietary energy acquired or consumed from non-staples is an indicator of dietary quality that can be used to understand diet patterns at the household level. Surveys that collect data on acquisition are a proxy for food consumption, as households may build food stocks or consume food stocks during the reference period, as compared to consumption-based surveys, which collect data on food consumed in a specified recall period (Fiedler et al., 2016 [1]). Both of these types (acquisition and consumption) collect information on food that is purchased, own-produced, or received as a transfer. A third type of Household Consumption and Expenditure Survey [2] (HCES) collects a combination of acquisition and consumption data wherein households report what they acquired through purchases and what they consumed from own-production and transfers (Smith, 2003 [3]). Staples—including cereals, roots, and tubers—are generally the least expensive food items available and are also the least micronutrient-dense, thus a diet based predominantly on staple foods is associated with micronutrient deficiencies (Arimond et al., 2010 [4]; Ruel, 2003 [5]). A higher value of this indicator (i.e. higher consumption of non-staple foods) suggests higher dietary quality at the household level (Smith & Subandoro, 2007 [6]).

Method of Construction

HCES [2] data can be used to construct this indicator. Foods should be grouped into "staple" and "non-staple." Staple foods are defined as cereals, roots, and tubers, and all other foods should be defined as non-staples (Smith & Subandoro, 2007 [6]). A food composition table (preferably local or regional, if available) is then used to estimate the energy (kcal) composition of the foods recalled in the survey.

To calculate the household share of energy consumed from non-staples:

$$\frac{Total\ energy\ from\ non\text{-}staples(kcal)}{Total\ energy\ from\ all\ foods\ (kcal)} \times 100$$

A similar indicator, the household share of energy consumed from *staples*, is often calculated using the same method, the only difference being that the numerator is the total energy from staples and an inverse interpretation (Smith & Subandoro, 2007 [6]).

Uses

This indicator can provide an understanding of diet quality within and across populations, and is a useful indicator for analyzing changes in dietary patterns over time, especially as these dietary changes relate to increased or decreased wealth and living standards. Typically, as populations become wealthier, they transition from diets that are high in starchy staples to diets that are more diverse and include more vegetables, fruits, legumes, and other non-staples (Lele et al., 2016 [7]).

Strengths and Weaknesses

This household-level indicator can be used as a simple proxy for certain aspects of dietary quality and can be used to understand dietary quality at geographic scales smaller than the national level, provided that the HCES [2] survey is sub-nationally representative. However, like other household-level indicators, it cannot be used to evaluate the diet quality of individuals within the household. Furthermore, this indicator could be misleading if ultra-processed foods are classified as non-staple foods, which could result in high fat and sugar intake, despite the appearance of low staple food consumption. Therefore, understanding the local context and food system is important.

Data Source

HCES [2] data can be used to calculate this indicator. The World Bank Microdata Library [8] has the most comprehensive and publicly accessible repository of data. Otherwise, data can be accessed—often for a fee—from the National Statistics Office, though each country has its own policies and procedures. The International Household Survey Network (IHSN [9]) is an informal network to promote data standards and dissemination. National or regional Food Composition Tables should be used to identify the nutrient contents of the foods and can be found at Food and Agriculture's (FAO) International Network of Food Data Systems (INFOODS [10]) or the International Life Science Institute's (ILSI) World Nutrient Databases for Dietary Studies (WNDDS [11]). In addition, Food Balance Sheet [12] (FBS) data could be used to calculate a similar indicator, such as the national energy available from non-staples [13]. Alternatively, 24-hour Dietary Recall [14], a Food Frequency Questionnaire [15] (FFQ), or Weighed Food Records [16] could also be used to calculate an analogous indicator.

Links to guidelines

- Smith and Subandoro, (2007). "Measuring food security using household expenditure surveys" [17]

Links to illustrative analyses

- Hirvonen et al., (2015). "Seasonality and household diets in Ethiopia" [18]
- Bouise, (2012). "Micronutrient Malnutrition: Causes, Prevalence, Consequences, and Interventions" [19]
- Hoddinott et al., (2002). "Dietary diversity as a household food security indicator" [20]

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Food Security Dimensions

- Quality [22]

Data Collection Levels

- [Household](#) [23]

Data Sources and Methods

- [Household Consumption and Expenditure Surveys (HCES)](#)
- [Food Composition Databases](#)

Requires Food Composition Database

- [Yes](#) [24]

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