Article

Global Trends in the Availability of Dietary Data in Low and Middle-Income Countries

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Abstract: Individual-level quantitative dietary data can provide suitably disaggregated information to identify the needs of all population sub-groups, which can in turn inform agricultural, nutrition, food safety, and environmental policies and programs. The purpose of this discussion paper is to provide an overview of dietary surveys conducted in low- and middle-income countries (LMICs) from 1980 to 2019, analyzing their key characteristics to understand the trends in dietary data collection across time. The present study analyzes the information gathered by the Food and Agriculture Organization of the United Nations/World Health Organization Global Individual Food consumption data Tool (FAO/WHO GIFT). FAO/WHO GIFT is a growing repository of individual-level dietary data and contains information about dietary surveys from around the world, collected through published survey results, literature reviews, and direct contact with data owners. The analysis indicates an important increase in the number of dietary surveys conducted in LMICs in the past four decades and a notable increase in the number of national dietary surveys. It is hoped that this trend continues, together with associated efforts to validate and standardize the dietary methods used. The regular implementation of dietary surveys in LMICs is key to support evidence-based policies for improved nutrition.

Keywords: dietary data; dietary assessment; food consumption; dietary intake; dissemination; 24 h recall

1. Introduction

Diet and nutrition are essential to good health and longevity. Poor-quality diets are associated with malnutrition in all its forms, including undernutrition, inadequate intake of vitamins or minerals, overweight, obesity, and resulting diet-related noncommunicable diseases [1]. Recent analyses estimate that 10% of the world’s attributable disease burden is associated with dietary risks [2], and for low- and middle-income countries (LMICs), the long-term impact of this burden is especially concerning. It is estimated that around 45% of deaths among children under five years of age are linked to undernutrition, most occurring in LMICs [1], and cardiovascular diseases account for a greater proportion of deaths in LMICs than high-income countries [3].

One of the main obstacles of achieving healthy diets for all is the insufficiency of available dietary data to support effective evidence-based policies and programs [4–7]. Individual-level quantitative dietary surveys based on retrospective or prospective methods, such as 24 h recalls or food records, provide disaggregated information on what people eat in a country, which in turn enables an understanding of current food consumption practices. The combination of the quantities and frequency of foods and beverages consumed over a given period and link to food composition tables allows the calculation of energy and
nutrient intakes [8]. Such data can be used to identify the needs of different population subgroups, which can inform agricultural, nutrition, food safety, and environmental policies and programs, including food-based dietary guidelines and food fortification programs, at global, national, and sub-national levels [9–13].

While gaps in the evidence remain, an increasing number of national and sub-national dietary surveys have been completed in LMICs in past decades. When dietary data in LMICs are available from dietary surveys on large or small samples, they are often not harmonized and broadly accessible for use by researchers, policy makers, and other stakeholders. Therefore, with the objective of increasing the use and access to individual-level dietary data collected worldwide, the Food and Agriculture Organization of the United Nations (FAO) developed, in collaboration with the World Health Organization (WHO), the FAO/WHO Global Individual Food consumption data Tool (FAO/WHO GIFT), an open access platform for sharing individual-level dietary survey data [14]. Survey datasets entered in the FAO/WHO GIFT database are disseminated through a web-based platform in the form of microdata. FAO/WHO GIFT provides food-based summary statistics in the form of visual infographics and simple indicators covering food consumption, nutrition, and food safety, for improved, evidence-based decision making. FAO/WHO GIFT is a web-based repository aimed at filling a major gap in understanding what people eat and drink around the world, and promoting the use of these data to inform evidence-based policies and guidelines on healthy diets [15].

One of the main outputs of the FAO/WHO GIFT platform is an inventory of individual-level dietary surveys from around the world [14]. The inventory provides details for each survey, making it an extensive source of information for users interested in investigating the availability of dietary surveys in a given country or region.

Expanding on the Global report on the state of dietary data [4], the objective of this discussion paper is to provide an overview of dietary surveys included in the inventory and conducted in LMICs from 1980 to 2019. The key characteristics of these surveys are analyzed to explain the trends in dietary data collection over time and to identify the potential gaps and opportunities for future dietary surveys in LMICs.

2. Materials and Methods
2.1. FAO/WHO GIFT Inventory of Dietary Surveys

The FAO/WHO GIFT inventory of dietary surveys contains information gathered through published survey results, non-systematic literature reviews, Internet searches, and direct contact with data owners and other key informants, including the Global Dietary Database at Tufts University, the Institute of Health Metrics and Evaluation (IHME), and the Nutrition and Metabolism Section at the International Agency for Research on Cancer (IARC) [16–18].

Dietary surveys matching the FAO/WHO GIFT minimum criteria are inserted in the inventory. The minimum criteria are purposely broad in order to include as many individual dietary surveys conducted in LMICs as possible. The minimum criteria are the following:

- Methods for dietary data collection: 24 h recalls, food records (weighed or non-weighed), or other quantitative methods, such as 12 h recalls and direct food weighing. Only quantitative methods are considered (i.e., methods quantifying the portion sizes consumed);
- Unit of data collection: individuals;
- Geographical coverage: national and sub-national surveys;
- Sample size for which dietary data were collected: 100 or more subjects;
- Year of data collection: 1980 or later;
- Coverage of the diet: all foods and beverages consumed;
- Other representativeness criteria: no evidence of strong selection bias, such as surveys covering only participants with medical conditions.
For each survey available in the inventory, structured metadata containing survey details are provided. The metadata contain eight main sections divided into sub-sections, covering key information, such as survey name, geographical coverage, institution(s) responsible for data collection, survey objectives, period of data collection, dietary assessment method used, sampling details, population groups included in the survey with their respective sample size, food composition sources used to estimate nutrient intake, and details regarding the nutrients and variables available in the final dataset.

2.2. Methods of Analysis

The analysis in the present study focused on the information available in the FAO/WHO GIFT inventory for dietary surveys conducted in LMICs—that is, low-income countries (LIC), lower-middle-income countries (LMC), and upper-middle-income countries (UMC), according to the World Bank classification [19].

For all LMIC surveys included in the inventory at the time of writing, selected metadata fields containing the main characteristics of the survey were analyzed, namely, country surveyed; period of data collection (start and end dates); geographical/administrative coverage of the data collection; typology of the geographical area covered by the survey (rural, urban, or both); name of the organization that performed the field work; dietary assessment method and related details; survey administration method; population groups surveyed; and minimum and maximum ages (in years) included in the dataset. Surveys were later grouped by decade based on the end year of the survey, by income level following the World Bank classification, and by geographical region following the FAO operational classification (Africa; Asia and the Pacific; Europe and Central Asia; Latin America and the Caribbean; and the Near East and North Africa).

Survey details were completed as far as possible using information available in the inventory and in the original sources. For some surveys, information was missing or incomplete. In a small number of cases, the end date of data collection was estimated based on the survey publication date. Where information was missing on the type of area (rural/urban), number of repeated recalls/records per subject, or minimum and maximum ages, these were classified as not specified.

3. Results

3.1. Overview of Dietary Surveys Conducted in LMICs

According to the information available on the FAO/WHO GIFT platform at the time of writing, at least 218 national and sub-national dietary surveys were completed in LMICs from 1980 to 2019 (Table A1). Completed surveys were considered as surveys available in the inventory with an end year in or before 2019. The surveys were conducted in 72 LMICs, corresponding to 53% of all LMICs (Figure 1). The majority of the countries with surveys were from Africa (23 countries) and Asia and the Pacific (23 countries), followed by Latin America and the Caribbean (13 countries). Of these, 27 countries had only one survey identified over this period, the majority being in Asia and the Pacific (12 countries) and in Africa (9 countries). Several countries had more than one survey completed during this period (Figure 2). In particular, eight countries had six or more dietary surveys completed from 1980 to 2019 (Brazil and Guatemala in Latin America and the Caribbean; Ethiopia, Kenya, Nigeria, and Zambia in Africa; India in Asia and the Pacific; and Lebanon in the Near East and North Africa) (Supplementary Material Table S1).
Figure 1. Number of LMICs with dietary surveys conducted during 1980–2019 by geographical region according to the FAO/WHO GIFT inventory of surveys. Data shown reflect the situation as of May 2022. Geographic regions are defined according to the FAO operational classification. Only LMICs are included for all regions, including Europe and Central Asia.

Figure 2. Number of surveys conducted in the period during 1980–2019 per LMIC in different geographical regions. Data shown reflect the situation as of May 2022. Geographic regions are defined according to the FAO operational classification. Only LMICs are included for all regions, including Europe and Central Asia.

A wide range of types of institutions responsible for data collection in LMICs was observed (Supplementary Material Table S1). The main types of institutions responsible for data collection were ministries or equivalent; other governmental institutions; universities and research institutions (either from the surveyed country or from another country); international organizations; and other international development agencies. Data collection for several surveys involved more than one institution.

In terms of the dietary assessment method used to collect information on individual quantitative food consumption, the vast majority of surveys analyzed used the 24 h recall method (201 out of the 218 surveys) (Supplementary Material Table S2). Only 17 surveys reported the use of a different dietary assessment method, out of which eight collected dietary information using an estimated food record; three used a weighed food record; and six used other quantitative methods. In the case of other methods, two surveys used dietary information using a diet history; international organizations; and other international development agencies. Data collection for several surveys involved more than one institution.
method (201 out of the 218 surveys) (Supplementary Material Table S2). Only 17 surveys reported the use of a different dietary assessment method, out of which eight collected dietary information using an estimated food record; three used a weighed food record; and six used other quantitative methods. In the case of other methods, two surveys used 12 h weighed food records combined with 12 h recalls, one survey used the diet history method, and the other three combined 24 h recall with estimated and/or weighed food records. Of the 218 analyzed surveys, 138 had repeated 24 h recalls or food records for more than one day for at least a sub-sample of the total interviewed subjects (Supplementary Material Table S2). The number of days per subject in the 138 surveys with repeated 24 h recalls or food records varied, with 88 surveys having 2 days per subject, 36 surveys having 3 days per subject, 10 surveys having more than 3 days per subject, and 4 surveys reporting multiple days without specifying the exact number. In relation to the survey administration method, the majority of the surveys used paper questionnaires (205 surveys out of 218), whereas 12 used an electronic questionnaire, and 1 longitudinal survey from China changed from paper questionnaire to electronic questionnaire in 2009. The vast majority of the surveys that used an electronic questionnaire (11 out of 12) were conducted in the last decade (2010–2019) (Supplementary Materials Tables S1 and S2).

Differences are also observed on the population groups sampled in dietary surveys carried out in LMICs from 1980–2019. Only 16 of the 218 dietary surveys conducted in LMICs from 1980 to 2019 covered all age groups, whereas almost half of the surveys (103 surveys) covered a unique population or age group (Supplementary Material Table S2). The population groups most commonly included in dietary surveys were women of reproductive age, followed by children older than two years old and infants and young children (Figure 3). The older adults’ age group refers to adults older than 50 years. Women older than 50 years were not considered in the older adults’ category if the survey design aimed at specifically sampling women of reproductive age (exclusively or in addition to other age groups, such as infants and young children).

**Figure 3.** Number of dietary surveys conducted in LMICs from 1980 to 2019 in which different population groups were sampled. *Women older than 50 years were not considered in the older adults’ category if the survey design aimed at specifically sampling women of reproductive age. Data shown reflect the situation as of May 2022.
3.1.1. Trends in Dietary Surveys Conducted in LMICs during 1980–2019 by Decade

The number of dietary surveys performed in LMICs from 1980 to 2019 was also different across the decades. In particular, the number of dietary surveys increased in all geographical regions after the year 2000 (Figure 4). This increased implementation of dietary surveys since 2000 occurred mostly in Africa (74 surveys), Asia and the Pacific (43 surveys), and Latin America and the Caribbean (43 surveys). In addition, three countries (China and Philippines in Asia and the Pacific and the Russian Federation in Europe and Central Asia) had longitudinal surveys conducted in the period during 1980–2019. The surveys in the Philippines and China started in the decade during 1980–1989 and had several rounds of data collection across the years until the decade during 2010–2019, whereas the one in the Russian Federation started in the decade during 1990–1999 and continued in 2010–2019. These three longitudinal surveys were not included in the analysis of surveys performed in LMICs by decade, as presented in the following sections.

![Figure 4. Number of dietary surveys conducted in LMICs during 1980–2019 by decade and geographical region, excluding longitudinal surveys. Data shown reflect the situation as of May 2022. Geographic regions are defined according to the FAO operational classification. Only LMICs are included for all regions, including Europe and Central Asia.](image-url)

Dietary surveys conducted in LMICs from 1980 to 2019 varied in terms of geographical coverage (national or sub-national) and type of area covered (rural/urban) (Figure 5). Although most dietary surveys conducted in LMICs were collected at the sub-national level (a total of 149 surveys during 1980–2019, compared to 66 national surveys), the number of national surveys has increased across the decades, with an increase of 100% in the decade during 2000–2009 in comparison to the decade during 1990–1999, and of 75% in the decade during 2010–2019 in comparison to 2000–2009 (Figure 5a). In terms of the type of area covered, approximately half of the dietary surveys conducted in LMICs during 1980–2019 covered a specific type of area, with 63 surveys covering only rural areas and 44 surveys covering only urban areas (Figure 5b). Dietary surveys covering both rural and urban areas increased throughout the decades to a total of 97 surveys in the period during 1980–2019. The information related to the type of area covered was missing for 11 of the dietary surveys analyzed.
The increase in national surveys across the decades occurred mainly in Asia and the Pacific (13 national surveys in 2010–2019, compared to 5 in 2000–2009), and in Latin America and the Caribbean (15 national surveys in 2010–2019, compared to 5 in 2000–2009) (Figure 6).

3.1.2. Trends in Dietary Surveys Conducted in LMICs during 1980–2019 by Country Income

Important trends emerge when examining the characteristics of the completed surveys by country income level (Figure 7). In the decades during 2000–2009 and 2010–2019, the absolute number of surveys completed in upper-middle-income countries (UMC) and lower-middle-income countries (LMC) was significantly higher compared to during 1980–1999, with a 4-fold and 5-fold increase, respectively. The greatest increase was observed...
in low-income countries (LIC), with almost all surveys completed in the period during 2000–2019. The number of large-scale, national surveys also increased across the decades for all country income levels, with the number of national surveys exceeding the number of sub-national surveys in UMC in the decade during 2010–2019.

Figure 7. Number of national and sub-national dietary surveys conducted in LMICs from 1980 to 2019 by decade and by country income level, excluding longitudinal surveys. Country income groups reflect the World Bank classification for 2021. Data shown reflect the situation as of May 2022. LIC = low-income countries; LMC = lower-middle-income countries; UMC = upper-middle-income countries.

3.1.3. Dietary Surveys Conducted in LMICs since 2020

In addition to the dietary surveys conducted from 2018 to 2019, the FAO/WHO GIFT inventory of surveys contains information for 12 dietary surveys performed in LMICs since 2020. Seven out of the twelve surveys were conducted in Africa (Côte d’Ivoire, Ghana, Niger, Nigeria, Uganda, United Republic of Tanzania, and Zambia), four surveys were conducted in Asia and the Pacific (Pakistan, Sri Lanka, and two surveys in Vietnam), and one was conducted in Europe and Central Asia (Montenegro). Seven of the twelve surveys had a national coverage (three in Africa; three in Asia and the Pacific; and one in Europe and Central Asia) (Supplementary Material Table S1).

4. Discussion

The present study extended and updated the analysis of the FAO/WHO GIFT inventory of surveys published in the FAO/Intake Global report on the state of dietary data [4]. Updates in the country income classification level by the World Bank between the fiscal years of 2021 and 2020 have been taken into account, in addition to revisions of the survey information available in the inventory following informed updates through contact with the data owners.

The findings from the present study indicate an increased undertaking of individual quantitative dietary surveys in LMICs in the past four decades, in particular, from the year 2000 onwards. The increased implementation of dietary surveys occurred in all geographic regions and across all low- and middle-income levels (i.e., LIC, LMC and UMC), indicating a solid trend towards an increased use of individual quantitative dietary assessment tools to assess food consumption and nutrient intakes. The vast majority of surveys used the 24 h recall method, which is in line with the previous studies reporting this method as the most commonly used dietary assessment method in LMICs [17,20,21]. This is a positive trend, since the 24 h recall method has been considered the most appropriate method to assess nutrient intakes in lower-income settings [21–25]. In addition, the majority of the studies had 24 h recalls or food records repeated on more than one day for at least a sub-sample of the total sample, allowing for the estimation of the distribution of usual intakes of individuals [8,26,27]. In terms of the survey administration method, the majority of the surveys collected dietary information through paper and pen questionnaires. The
use of technology can facilitate data collection, reduce the time needed for coding, and raise participation levels in populations less willing to participate in paper-based surveys, such as adolescents. Access to relevant dietary software that uses modern technology and the Internet, as well as skills and resources needed to train interviewers and/or respondents in completing the method, should be taken into account when considering the use of new technologies in LMICs [28].

Although the majority of dietary surveys conducted in LMICs in the past decades were based on sub-national coverage and focused on one type of area, the number of surveys conducted at the national level and covering both rural and urban areas have significantly increased since 2000, indicating the increased efforts and investments made by countries to collect dietary survey data at a larger scale.

The differences observed in the number of dietary surveys conducted by geographic region across the decades also indicate an increased interest in understanding dietary intakes in Africa, Asia and the Pacific, and Latin America and the Caribbean. The total number of sub-national surveys in these regions is still higher than national surveys, but the proportion of national surveys have increased in recent decades for Asia and the Pacific and Latin America and the Caribbean. In particular, for Latin America and the Caribbean, the absolute number of national surveys exceeded the sub-national ones in the decade during 2010–2019, indicating an increased effort to undertake large-scale surveys in the region. The information available for surveys completed since 2020 also points to an increased investment in dietary surveys in Africa, which corresponded to more than half of the known surveys conducted in recent years. This trend is positive, and should be proceeded with increased validation and standardization of dietary tools used in region [29] in order to help fill the gap in nationally representative dietary survey data in Africa.

Conversely, the number of surveys covering all age classes in LMICs is still very limited, with the majority of surveys focusing on one or more specific population group. Even if large-scale, national surveys covering all population groups are preferred, decisions related to the survey design, in particular, the geographic scope and the demographic groups to be targeted, should always take into consideration the objectives of the survey, the availability of time and resources, and other logistical constraints [24,30]. The observed differences in the geographic and demographic coverage of dietary surveys in LMICs are also linked to the institutions responsible for conducting the surveys, which are varied and have different objectives and resources.

The increased efforts made by LMICs to conduct dietary surveys are also demonstrated by the emergence of institutionalized dietary survey programs and rolling survey designs in LMICs, namely, Brazil, China, India, Mexico, and the Philippines, as reported by FAO and Intake [4]. These types of programs are generally more common in high-income countries and their presence in LMICs indicates significant long-term positive engagement and investment from country governments to regularly undertake large-scale dietary surveys.

Strengths and Limitations

The FAO/WHO GIFT platform offers the most up-to-date inventory of individual quantitative dietary surveys conducted in LMICs to date. It was built on the information from previous work with similar objectives and information gathered by collaborating initiatives [16,17,29], complemented by additional literature searches and direct contact with data owners and other key informants.

Although the inventory has been extensively populated, it is possible that some dietary surveys may have been omitted from the platform due to the challenges involved in accessing complete and up-to-date information on dietary surveys conducted on a global scale. Possible biases in the targeted methodology used to populate the inventory should also be considered when interpreting the results (e.g., non-systematic reviews of published studies, targeted online searches, direct contact with data owners through various nutrition networks). Additionally, searches were performed as far as possible in numerous local languages, but searches were limited to the languages known by the investigators.
Moreover, the focus on the published survey results available online can lead to biases in the number of dietary surveys identified before and after the year 2000 due to the increase in publications over time and increased access to online survey documentation. In many resource-limited settings, survey results may not be published, thus limiting the possibility for inclusion in the inventory. A further consideration relates to the time-lag between survey data collection and analysis, especially when dietary information is collected with pen and paper, as is often the case in LMIC settings.

The investigators were also sometimes limited to information gathered from publications, which may not always be complete and as detailed as required for the inventory. In particular, technical aspects relating to the dietary assessment method used were sometimes lacking in the survey documentation. In addition, the use of free text fields in some information captured in the metadata resulted in the collection of information that was often not comparable between dietary surveys, and should be re-considered in the future. This limitation impacted the analysis of the population and age groups included in the survey, and challenges in reclassifying the groups into standard population and age groups were faced, especially in cases where the investigators did not have access to the survey microdata.

The flexibility offered by the FAO/WHO GIFT platform for researchers and investigators to update and revise the information available in the inventory is aimed at reducing these limitations and increasing the accuracy. The availability of the inventory as digital/online also allows for the continuous update and addition of information on new surveys. The FAO/WHO GIFT inventory is a living source of survey information that will be continuously updated and improved. It offers a substantive basis for analysis of the trends and evolution of dietary surveys in LMICs.

5. Conclusions

The present study provides an important overview of the quantitative individual-level dietary data currently available in LMICs, identifying data gaps and priority areas for future data collection. This evidence base provides a foundation on which to build future research in the area of dietary surveys. Dietary surveys have been conducted in more than half of all LMICs in the past four decades. The coverage of the surveys was historically focused on sub-national areas and specific population groups, but since 2000, the number of national surveys has increased in all regions and for all low- and middle-income levels (LIC, LMC and UMC). It is hoped that this trend continues, together with associated efforts to validate and standardize the dietary methods and tools used. The establishment of routine, regular implementation of dietary surveys in LMICs, with more expansive population and area coverage, together with data sharing and in-depth data analysis, are key to support evidence-based policy and programs for improved nutrition.

Supplementary Materials: The following are available online at https://www.mdpi.com/article/10.3390/nu14142987/s1, Table S1: list of dietary surveys conducted in LMICs and related details for geographic region, country income level, survey end year, survey decade, geographical coverage, type of area, and institutions responsible for data collection; Table S2: list of dietary surveys conducted in LMICs and related details for dietary assessment method, presence of repeated dietary recall/records and number of recalls/records per subject, survey administration method, population groups, minimum and maximum ages in years.

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**Conflicts of Interest:** The authors declare no conflict of interest.

**Disclaimer:** The views expressed in this publication are those of the author(s) and do not necessarily reflect the views or policies of the Food and Agriculture Organization of the United Nations.

**Appendix A**

Full list of dietary surveys conducted in LMICs according to the FAO/WHO GIFT inventory and related references. The data shown reflect the situation as of May 2022. Information from surveys with references not available were gathered through direct contact with data owners and key informants.

| Country     | Survey Name                                                                 | Reference                                      |
|-------------|------------------------------------------------------------------------------|------------------------------------------------|
| Algeria     | Algeria—2008/2010—University of Tlemcen                                      | [31]                                           |
| Algeria     | Algeria—2010/2014—University of Tlemcen                                      | [32]                                           |
| Algeria     | Algeria—2011/2012—University of Tlemcen                                      | [33]                                           |
| American Samoa | American Samoa—1990—Hawaii Department of Health                              | [34]                                           |
| Argentina   | Argentina—2015—Latin American Study of Nutrition and Health/Estudio Latinoamericano de Nutrición y Salud (ELANS) | [35,36]                                        |
| Argentina   | Argentina—2005—Encuesta Nacional de Nutrición y Salud (ENNyS)                | [37–39]                                        |
| Argentina   | Argentina—2012/2013—Primer estudio sobre el estado nutricional y los hábitos alimentarios de la población adulta de Rosario | [40]                                           |
| Argentina   | Argentina—2019—2nd Encuesta Nacional de Nutrición y Salud (ENNyS 2)          | [41]                                           |
| Argentina   | Primera Encuesta Alimentaria y Nutricional de la Ciudad Autónoma de Buenos Aires—EAN CABA | [42–44]                                        |
| Bangladesh  | HarvestPlus Bangladesh Bio-fortified Rice Project—Baseline Dietary Survey    | [45,46]                                        |
| Bangladesh  | Bangladesh Integrated Household Survey (BIHS), 2011–2012                     | [47–49]                                        |
| Bangladesh  | Bangladesh—1996—IFPRI                                                        | [50]                                           |
| Bangladesh  | Aquatic food production systems (gher) across the saline gradients in the southwest coastal Bangladesh and its nexus to food and nutritional security | [51]                                           |
| Bangladesh  | Nutrition Survey of Bangladesh 2017–2018                                     | Information not available                      |
| Benin       | Benin—2012—Ghent University                                                 | [52]                                           |
| Benin       | Benin—FoodAfrica Project—Bioversity 2015                                   | Information not available                      |
| Benin       | Benin—2014—Regional Institute of Public Health (IRSP) of Ouidah             | [53]                                           |
### Table A1. Cont.

| Country                | Survey Name                                                                 | Reference                                                                 |
|------------------------|-----------------------------------------------------------------------------|---------------------------------------------------------------------------|
| Benin                  | Benin—2006—TRANSNUT                                                        | [54]                                                                      |
| Benin                  | Benin—2007—Ghent University                                                | [55]                                                                      |
| Bolivia (Plurinational State of) | Bolivia—2009/2012—Lund University                                           | [56]                                                                      |
| Brazil                 | Brazil—2007—ASBRAN                                                          | Information not available                                                |
| Brazil                 | Brazilian National Dietary Survey 2008–2009                                 | [57]                                                                      |
| Brazil                 | Brazil—2015—Latin American Study of Nutrition and Health/Estudio Latinoamericano de Nutrición y Salud (ELANS) | [35,36]                                                                  |
| Brazil                 | Health Survey São Paulo (ISA-Capital) 2008                                  | [58,59]                                                                  |
| Brazil                 | Health Survey of the State of São Paulo (ISA-SP) 2001/2002                 | [60]                                                                      |
| Brazil                 | Health Survey São Paulo (ISA-Capital) 2003                                  | [59,61]                                                                  |
| Brazil                 | Brazilian Study of Cardiovascular Risks in Adolescents (ERICA)             | [62–64]                                                                  |
| Brazil                 | Brasilia consumption and physical activity survey—ICA Brasilia             | Information not available                                                |
| Bulgaria               | Bulgaria—2004—National Survey Of Food Intake And Nutritional Status (NSFIN) | [65]                                                                      |
| Bulgaria               | Bulgaria—2007—Nutrition and Nutritional Status of Children under 5 years in Bulgaria (NUTRICHILD) | [66]                                                                      |
| Burkina Faso           | Food consumption and iron status survey in two provinces of rural Burkina Faso | [67,68]                                                                  |
| Burkina Faso           | Burkina Faso—2004—Ghent University and Institute of Tropical Medicine of Antwerp, Belgium | [69]                                                                      |
| Burkina Faso           | Burkina Faso—2010—Université de Montréal                                  | [70,71]                                                                  |
| Burkina Faso           | Burkina Faso—2006—IRED                                                    | [72,73]                                                                  |
| Burkina Faso           | Burkina Faso—2014—Moderate Acute Malnutrition Out Study                    | [74]                                                                      |
| Cabo Verde             | Cabo Verde—2014—Universidade Nova de Lisboa                                | [75–77]                                                                  |
| Cambodia               | Cambodia—2010—Institute of Technology of Cambodia                          | [78,79]                                                                  |
| Cameroon               | Cameroon—2012—University of Douala                                        | [80]                                                                      |
| Cameroon               | Cameroon—2006—Umeå University                                               | [81,82]                                                                  |
| Cameroon               | Cameroon—2013—Ghent University                                              | [83,84]                                                                  |
| Cameroon               | Cameroon—2009—UC Davis/Hellen Keller International/Ministry of Public Health, Cameroon | [85]                                                                      |
| China                  | China Health and Nutrition Survey (CHNS)                                   | [86,87]                                                                  |
| Colombia               | Colombia—2015—Latin American Study of Nutrition and Health/Estudio Latinoamericano de Nutrición y Salud (ELANS) | [35,36]                                                                  |
| Colombia               | Colombia—2005—ProPAN                                                       | [88]                                                                      |
| Colombia               | Colombia—2015—Encuesta Nacional de la Situación Nutricional (ENSIN)         | [89]                                                                      |
| Costa Rica             | Costa Rica—1996—INCIENSA                                                  | [90–93]                                                                  |
| Costa Rica             | Costa Rica—2006—INCIENSA                                                  | [94]                                                                      |
| Costa Rica             | Costa Rica—1999/2000—Encuesta Nacional de Nutrición—Comunidades centinela | [95,96]                                                                  |
| Costa Rica             | Costa Rica—2015—Latin American Study of Nutrition and Health/Estudio Latinoamericano de Nutrición y Salud (ELANS) | [35,36]                                                                  |
Table A1. Cont.

| Country                                      | Survey Name                                                                 | Reference       |
|----------------------------------------------|------------------------------------------------------------------------------|-----------------|
| Costa Rica                                   | Farm to School: a multicomponent food system intervention to increase consumption of Fruit and Vegetables in Costa Rica | Information not available |
| Côte d’Ivoire                                | Évaluation de la consommation alimentaire et de l’apport en nutriments des enfants de 6 à 12 ans et des femmes en âge de procréer en Côte d’Ivoire | Information not available |
| Democratic Republic of the Congo             | Democatric Republic of Congo—2009—University of Kisangani/Ghent University | [97]            |
| Democratic Republic of the Congo             | Women First Dietary Recall Data: Sud-Ubangi, Democratic Republic of the Congo 2014/2016 | [98,99]         |
| Dominica                                     | Dominica—2005/2006—Clemson University                                        | [100,101]       |
| Ecuador                                      | Ecuador—2002—ProPAN                                                           | [102]           |
| Ecuador                                      | Ecuador—2015—Latin American Study of Nutrition and Health/Estudio Latinoamericano de Nutrición y Salud (ELANS) | [35,36]         |
| Ecuador                                      | Ecuador—2012—Encuesta Nacional de Salud y Nutrición (ENSANUT-ECU)             | [103]           |
| Egypt                                        | Egypt—1994—Agriculture Research Centre (FTRI/ARC)                            | [104]           |
| Egypt                                        | Egypt—1981—National Nutrition Institute                                      | [104]           |
| Egypt                                        | Egypt—1998—National Nutrition Institute                                      | [104]           |
| Egypt                                        | Egypt—University of Maryland                                                 | [105,106]       |
| Equatorial Guinea                            | Equatorial Guinea—1997—Instituto de Salud Carlos III                        | [107]           |
| Equatorial Guinea                            | Equatorial Guinea—2004—Instituto de Salud Carlos III                        | [107,108]       |
| Ethiopia                                     | Ethiopia—2011—Ethiopian Public Health Institute (EPHI)                       | [109]           |
| Ethiopia                                     | Ethiopia—2009—Instituto de Salud Carlos III                                 | [110]           |
| Ethiopia                                     | Ethiopia—2005—University of Gondar                                           | [111]           |
| Ethiopia                                     | Dietary Practices, Maternal Nutritional Status and Child Stunting: Comparative and Intervention Studies in Pulse and Non-pulse Growing Rural Communities in Ethiopia | [112,113]       |
| Ethiopia                                     | Ethiopia—2009/2010—Jimma University                                          | [114]           |
| Ethiopia                                     | Ethiopia—2013/2014—Addis Ababa University                                   | [115]           |
| Ethiopia                                     | Dietary behavior, food and nutrient intake of pregnant and non-pregnant women of Southern Ethiopia | [116]           |
| Ethiopia                                     | Ethiopia—2014—University of Saskatchewan                                    | [117]           |
| Fiji                                         | Fiji—1980—Cardiovascular and Metabolic Disease Survey                        | [118]           |
| Fiji                                         | Fiji—1996—Japan Women’s University                                          | [119]           |
| Fiji                                         | Fiji—2004—National Nutrition Survey                                         | [120]           |
| Fiji                                         | Fiji—2010—Impact Study on Iron Fortified Flour                              | [121]           |
| Fiji                                         | Fiji—2015—National Nutrition Survey                                         | Information not available |
| Ghana                                        | Ghana—2007—University of Ghana                                              | [122]           |
| Ghana                                        | Ghana—2010/2011—Modeling the Epidemiologic Transition Study (METS)           | [123]           |
| Ghana                                        | Effect of lysine supplementation on health and morbidity in subjects belonging to poor peri-urban households in Accra, Ghana | [124]           |
| Ghana                                        | Ten2Twenty: Ghana Dietary Intake Among Adolescent Girls in North-Eastern Ghana | [125]           |
| Ghana                                        | Community assessment course of the Department of Nutrition and Food Science, University of Ghana | Information not available |
| Country   | Survey Name                                                                 | Reference                                                                 |
|-----------|-----------------------------------------------------------------------------|---------------------------------------------------------------------------|
| Guatemala | Guatemala—2012—FANTA/INCAP                                                 | [126]                                                                     |
| Guatemala | Women First Dietary Recall Data: Chimaltenango, Guatemala 2014/2016          | [98,99]                                                                   |
| Guatemala | Validation study (FFQ against R24H)                                         | [127]                                                                     |
| Guatemala | Guatemala—1996–1999—Generational Effects Study, INCAP                       | [128–131]                                                                 |
| Guatemala | Controlling study of the impact of the biofortified bean variety SMN39 (Phaseolus vulgaris L) associated with agricultural and nutritional education, to prevent iron deficiency in rural adolescent women from Eastern Guatemala | [132,133]                                                                 |
| Guatemala | Farm to School: a multicomponent food system intervention to increase consumption of Fruit and Vegetables in Guatemala | Information not available                                                |
| Honduras  | Honduras—2008/2010—University of North Carolina                             | [134]                                                                     |
| India     | India—2009/2012—Diet and Nutritional status of Rural population, Prevalence of hypertension and Diabetes among Adults and Infant & Young child feeding practices | [135]                                                                     |
| India     | Women First Dietary Recall Data: Belagavi, Karnataka, India 2014/2016       | [98,99]                                                                   |
| India     | India—2013/2014—All India Institute of Medical Sciences                    | [136]                                                                     |
| India     | India—1994/1996—Pune Maternal Nutrition Study                             | [137]                                                                     |
| India     | India—2013/2014—Hirabai Cowasji Jehangir Medical Research Institute        | [138]                                                                     |
| India     | India—2006–2010—Hirabai Cowasji Jehangir Medical Research Institute        | [139]                                                                     |
| India     | SPANDAN Bihar-Odisha Integrated Ag-Nutrition Survey, India, 2014/2015      | [140]                                                                     |
| India     | A study of growth, nutrition and health status of urban and rural school children and adolescents with special reference to vitamin D deficiency | Information not available                                                |
| India     | Chennai Urban Rural Epidemiological Study (CURES)                           | Information not available                                                |
| India     | Developing a national salt reduction program for India: population survey in North and South India | [141]                                                                     |
| Indonesia | Indonesia—2011—SEANUTS                                                    | [142]                                                                     |
| Indonesia | Food Consumption Survey (FCS) Indonesia 2014                               | Information not available                                                |
| Indonesia | Indonesia—2003/2004—The University of Tokyo                                | [143]                                                                     |
| Indonesia | Indonesia—2016—Developing Biomarkers of Exclusive Breastfeeding Practice—HBGD | Information not available                                                |
| Iraq      | Iraq—1998/2000—College of Medicine and Health Technology                  | [144]                                                                     |
| Kenya     | Kenya—2012—London School of Hygiene/Kenyatta University                    | [145]                                                                     |
| Kenya     | Kenya National Micronutrient Survey 2011                                  | [146]                                                                     |
| Kenya     | Kenya—2012—Biodiversity INULA                                              | [147]                                                                     |
| Kenya     | Kenya—2009/2010—Jomo Kenyatta University of Agriculture and Technology     | [148]                                                                     |
| Kenya     | Kenya—2007/2008—Wageningen University                                      | [149]                                                                     |
| Kenya     | Kenya—2001/2002—University of Bologna                                      | [150]                                                                     |
| Kenya     | Kenya—1998—Child Nutrition Project (CNP)                                   | [151]                                                                     |
| Kenya     | Kenya—University of Cape Town                                             | [152]                                                                     |
| Kenya     | Kenya—2009—Washington University School of Medicine                       | [153]                                                                     |
| Kenya     | Kenya—2018—Improving access to and benefits from a wealth of diverse seeds to support on-farm biodiversity for healthy people in resilient landscapes: Baseline Survey | Information not available                                                |
| Kenya     | Kenya—2014—Plenty season—Humid Tropics Agrobiodiversity and Nutrition Project | [84,154–156]                                                             |
| Country                  | Survey Name                                                                 | Reference                                      |
|-------------------------|------------------------------------------------------------------------------|------------------------------------------------|
| Kenya                   | Kenya—2015—Lean Season—Humid Tropics Agrobiodiversity and Nutrition Project  | [84,154–157]                                  |
| Kenya                   | Kenya—2015—Baseline—Humid Tropics Agrobiodiversity and Nutrition Project     | [157]                                          |
| Kenya                   | Kenya—2016: Innovative, participatory tools for dietary assessment and nutrition education in Turkana County—Diagnostic survey | Information not available                      |
| Kenya                   | Maternal detailed dietary data collected from post-partum women in rural Kenya under the WASH Benefits Clinical Trial | Information not available                      |
| Kenya                   | Contribution of locally processed fruits and vegetables towards sustainable nutrition in East Africa: studies from Kenya, Tanzania and Uganda | [158]                                          |
| Kiribati                | Kiribati—1981—Kiribati Diabetes and Cardiovascular Disease Survey            | [118]                                          |
| Lao People’s Democratic Republic | National Food Consumption Survey Lao PDR 2016–2017                          | [159]                                          |
| Lao People’s Democratic Republic | Lao’s People Democratic Republic—2005—Institut Francophone pour la Médecine Tropicale | [160]                                          |
| Lebanon                 | Early Life Nutrition and Health in Lebanon                                   | [161]                                          |
| Lebanon                 | Lebanon—2005/2006—American University of Beirut                             | [162]                                          |
| Lebanon                 | Lebanon—1997/1998—American University of Beirut                             | [163]                                          |
| Lebanon                 | Lebanon—1997—American University of Beirut                                   | [164]                                          |
| Lebanon                 | Lebanon—2003—American University of Beirut                                   | [165]                                          |
| Lebanon                 | Nutrition and Non-communicable Diseases Risk Factor                          | [166]                                          |
| Lebanon                 | Lebanon—2011/2012—American University of Beirut                             | [167]                                          |
| Lebanon                 | Lebanon—2015—Saint-Joseph University of Beirut                              | [168]                                          |
| Lesotho                 | Lesotho—2010—University of the Free State                                   | [169]                                          |
| Libya                   | Libya—2008—Newcastle University                                             | [170]                                          |
| Libya                   | Libya—2005/2007—University of Giessen                                        | [171,172]                                     |
| Madagascar              | NutriMad project                                                            | [173,174]                                     |
| Malawi                  | Malawi—2010—DOSE trial                                                      | [175]                                          |
| Malawi                  | Malawi—1998—University of Otago                                             | [176]                                          |
| Malawi                  | Malawi—2008—Lilongwe University of Agriculture & Natural Resources           | [177]                                          |
| Malaysia                | Malaysia—2014—Ministry of Health Malaysia                                     | [178]                                          |
| Malaysia                | Malaysia Lipid Study 2012/2013                                               | [179,180]                                     |
| Maldives                | Maldives—1997/1998—University of Hohenheim                                  | [181,182]                                     |
| Mali                    | Mali—2007—University of Abomey Calavi/Wageningen University/Institute of Rural Economy | [183,184]                                     |
| Marshall Islands        | Marshall Islands—2007—John Hopkins University                              | [185]                                          |
| Mexico                  | Mexican National Health and Nutrition Survey 2012                           | [186–188]                                     |
| Mexico                  | Halfway National Health and Nutrition Survey 2016 (ENSANUT MC 2016)         | [189,190]                                     |
| Montenegro              | European Food Safety Authority programme with the subject “Support to National Dietary Surveys in Compliance with the EU Menu methodology (sixth support)—“The adults’ survey”, including subjects from 10 to 74 years old” | Information not available                      |
| Mozambique              | Estudo do Estado Nutricional e da Dieta em Raparigas Adolescentes na Zambézia (ZANE) | [191–193]                                     |
| Mozambique              | Mozambique—2006—HarvestPlus                                                 | [194,195]                                     |
| Country     | Survey Name                                                                 | Reference                       |
|-------------|------------------------------------------------------------------------------|---------------------------------|
| Mozambique  | Towards Sustainable Nutrition Improvement in Rural Mozambique (TSNI)—Baseline survey | [196,197]                       |
| Myanmar     | Myanmar—2003/2005—Department of Medical Research (Lower Myanmar)             | [198]                           |
| Nepal       | Nepal—2008/2009—University of Bergen                                        | [199,200]                      |
| Nepal       | Nepal—1989—Mukogawa Women’s University                                      | [201]                           |
| Nepal       | Nepal—2000/2001—University of Bergen                                      | [200,202]                      |
| Niger       | Niger—2019—Republique du Niger, Institut National de la Statistique Neger, HC3N | Information not available       |
| Nigeria     | Nigeria—1995—Federal University of Agriculture, Abeokuta                    | [203]                           |
| Nigeria     | Nigeria—Federal University of Agriculture, Abeokuta                          | [204]                           |
| Nigeria     | Nigeria—2011—HarvestPlus                                                      | [205]                           |
| Nigeria     | Nigeria—2007—Ambrose Alli University                                        | [206]                           |
| Nigeria     | Nigeria—2001/2003—International Institute of Tropical Agriculture            | [153]                           |
| Nigeria     | Food consumption and nutritional status of health workers in Ogun state      | Information not available       |
| Nigeria     | Nigeria—2021—National Food Consumption and Nutrition Survey                  | Information not available       |
| Pakistan    | Women First Dietary Recall Data: Thatta, Pakistan 2014/2016                  | [98,99]                         |
| Pakistan    | Pakistan—2008/2009—University of Tübingen                                    | [207]                           |
| Pakistan    | Study of Environmental Enteropathy and Malnutrition in Pakistan (SEEM-Pakistan) Protocol | Information not available       |
| Pakistan    | ADOLESCENT HEALTH, NUTRITION AND WELL-BEING SURVEY IN TANDO MUHAMMAD KHAN (TMK) DISTRICT, SINDH | Information not available       |
| Panama      | Panama—2003—ProPAN                                                           | [208]                           |
| Panama      | Panama—2009—ProPAN                                                           | [209]                           |
| Papua New Guinea | Papua New Guinea—2010/2011—National institute of Health and Nutrition, Tokyo | [210]                           |
| Peru        | Peru—2004/2005—National Survey on Nutritional, Biochemical, Socioeconomic Indicators Related to Chronic Degenerative Diseases | [211]                           |
| Peru        | Peru—2003—National Food Consumption Survey for Fertile Women and 12 to 35 Month Old Children | [212,213]                      |
| Peru        | Peru—2015—Latin American Study of Nutrition and Health/Estudio Latinoamericano de Nutrición y Salud (ELANS) | [35,36]                         |
| Peru        | Vigilancia Alimentaria y Nutricional por etapas de vida—VIANEV—niños menores de 36 meses—2015 | [214]                           |
| Philippines | 6th Philippines National Nutrition Survey (NNS)—2003—Dietary component (lactating women)—DOST-FNRI | [215]                           |
| Philippines | 8th Philippines National Nutrition Survey (NNS)—2013—Dietary component—DOST-FNRI | [216]                           |
| Philippines | 7th Philippines National Nutrition Survey (NNS)—2008—Dietary component—DOST-FNRI | [215]                           |
| Philippines | Philippines—2002—Cebu Longitudinal Health and Nutrition Survey (CLHNS)          | [217,218]                      |
| Philippines | Philippines—1994—Cebu Longitudinal Health and Nutrition Survey (CLHNS)          | [217]                           |
| Philippines | Philippines—1998—Cebu Longitudinal Health and Nutrition Survey (CLHNS)          | [217]                           |
| Country            | Survey Name                                                                 | Reference         |
|--------------------|-----------------------------------------------------------------------------|-------------------|
| Philippines        | Philippines—2012—Cebu Longitudinal Health and Nutrition Survey (CLHNS) a     | [217]             |
| Philippines        | Philippines—2015—Cebu Longitudinal Health and Nutrition Survey (CLHNS) a     | [217]             |
| Philippines        | Philippines—1983—1986—Cebu Longitudinal Health and Nutrition Survey (CLHNS) a | [217]             |
| Philippines        | Philippines—2005—Cebu Longitudinal Health and Nutrition Survey (CLHNS) a     | [217,218]         |
| Romania            | Romania—2012—DIETA PILOT Adults Study                                      | Information not available |
| Romania            | Romania—2012—DIETA PILOT Children Study                                    | Information not available |
| Russian Federation | Russian Federation—1995/2014—Russian Longitudinal Monitoring Survey (Phase II) | [219,220]         |
| Russian Federation | Russian Federation—2001—The State Research Center for Preventive Medicine of the Ministry of Health of the Russian Federation/Institute of Nutrition of the Russian Academy of Medical Sciences | [221]             |
| Russian Federation | Russian Federation—2006—Institute of Nutrition, Russian Academy of Medical Sciences (RAMS) | [222]             |
| Serbian            | Russian Federation—2006—Russian Longitudinal Monitoring Survey (Phase I)    | [224]             |
| Rwanda             | Rwanda—2010/2011—Food and Nutrition Survey                                 | [225]             |
| Sao Tome and Principe | Nutritional adequacy in undernourished children from 6 to 59 months of age, in Cantagalo, São Tomé e Principe | [226]             |
| Serbia             | Serbia—2014/2015—University of Belgrade                                    | [227]             |
| Serbia             | Kosovo—2010/2011—University of Kassel                                     | [228]             |
| Solomon Islands    | Solomon Islands—2005—University of California                             | [229]             |
| South Africa       | South Africa—1999—National Food Consumption Survey (NFCS)                 | [230]             |
| Sri Lanka          | Sri Lanka—2006—University of Colombo                                       | [231]             |
| Sri Lanka          | Dietary Intakes of Sri Lankan Children 6–14 years                         | Information not available |
| Sudan              | Sudan—2006—London Metropolitan University                                 | [232]             |
| Tajikistan         | Tajikistan—2000/2005—Kazakh Academy of Nutrition                          | [233]             |
| Thailand           | Thailand—2011—SEANUTS                                                     | [234]             |
| Tunisia            | Tunisia—2011—National Institute of Public Health                          | [235]             |
| Tunisia            | Understanding the Nutritional Transition in the Maghreb to Contribute to the Prevention of Obesity and Non-communicable Diseases. 2009–2010 | [236–240]         |
| Tunisia            | Tunisian National Nutrition Survey 1996–1997: Assessment of the nutritional status of the Tunisian population | [241,242]         |
| Uganda             | HarvestPlus Reaching End Users (REU) Orange-Fleshed Sweet Potato (OFSP) Project | [243,244]         |
| Uganda             | The 2008 Uganda Food Consumption Survey                                   | [245]             |
| Uganda             | Uganda—2006—Makerere University                                           | [246]             |
| Uganda             | Contribution of locally processed fruits and vegetables towards sustainable nutrition in East Africa: studies from Kenya, Tanzania and Uganda | [158]             |
| Country                  | Survey Name                                                                 | Reference |
|-------------------------|------------------------------------------------------------------------------|-----------|
| Ukraine                 | Ukraine—2012/2013—State Research Center for Food Hygiene, Ministry of Health | [247]     |
| United Republic of Tanzania | United Republic of Tanzania—2013—Ghent University                       | [248]     |
| United Republic of Tanzania | Scale-N Nutrition Survey 2016                                              | [249]     |
| United Republic of Tanzania | Tanzania—2009—McGill University                                      | [250]     |
| United Republic of Tanzania | Contribution of locally processed fruits and vegetables towards sustainable nutrition in East Africa: studies from Kenya, Tanzania and Uganda | [158]     |
| Vanuatu                 | Vanuatu—1985—South Pacific Commission/WHO                                  | [118]     |
| Venezuela (Bolivarian Republic of) | Venezuela—2015—Latin American Study of Nutrition and Health/Estudio Latinoamericano de Nutrición y Salud (ELANS) | [35,36]    |
| Venezuela (Bolivarian Republic of) | Venezuela—1999/2000—Centro de Atención Nutricional Infantil Antimano         | [251]     |
| Venezuela (Bolivarian Republic of) | Venezuela—2002—CEINUT, Universidad de Carabobo                         | [252]     |
| Venezuela (Bolivarian Republic of) | Venezuela—1998/1999—CEINUT, Universidad de Carabobo        | [253]     |
| Venezuela (Bolivarian Republic of) | Venezuela—2013—Encuesta Nacional de Consumo de Alimentos (ENCA)             | [254]     |
| Vietnam                 | Vietnam—2014—Bioversity                                                      | [84]      |
| Vietnam                 | Vietnam—2011—SEANUTS                                                        | [255,256] |
| Vietnam                 | Vietnam—Japan Women’s University                                            | [119]     |
| Vietnam                 | Vietnam—2006—Institute of Tropical Medicine, Antwerp                       | [257]     |
| Vietnam                 | Vietnam—1999—Japan Women’s University                                       | [258]     |
| Vietnam                 | South East Asian Nutrition Survey II (SEANUTS II) in Vietnam: Nutrition survey of Vietnamese children aged 0.5 to 11 years old | Information not available |
| Vietnam                 | Vietnam 2019 General Nutrition Survey                                       | Information not available |
| West Bank and Gaza Strip | West Bank and Gaza Strip—2002—Al-Quds University/Johns Hopkins Bloomberg School of Public Health | [259]     |
| West Bank and Gaza Strip | West Bank and Gaza Strip—2003—Al-Quds University/Johns Hopkins Bloomberg School of Public Health | [260]     |
| Zambia                  | Zambia—2008—Zambian National Food and Nutrition Commission                  | [261]     |
| Zambia                  | The 2009 Food consumption and Vitamin A status survey in Zambia             | [262]     |
| Zambia                  | Zambia—2012/2013—Johns Hopkins University                                   | [263]     |
| Zambia                  | Zambia—2012—University of Wisconsin                                         | [264]     |
| Zambia                  | Minimum Dietary Diversity validation study using weighed food records among women of reproductive age in rural Zambia | Information not available |
| Country  | Survey Name                                | Reference                                      |
|----------|--------------------------------------------|------------------------------------------------|
| Zambia   | Zambia Food Consumption and Nutrition Survey 2012 | Information not available                     |
| Zambia   | Zambia Food Consumption and Micronutrient Survey for 2020 | Information not available                     |
| Zimbabwe | Zimbabwe—2003—McMaster University          | [265]                                          |

* The Philippines CEBU surveys were considered as one longitudinal survey in the Results Section.

**Table A1. Cont.**

**References**

1. WHO. Fact Sheets—Malnutrition. Available online: https://www.who.int/news-room/fact-sheets/detail/malnutrition (accessed on 7 June 2022).

2. Gakidou, E.; Afshin, A.; Abajobir, A.A.; Abate, K.H.; Abbafati, C.; Abbas, K.M.; Abd-Allah, F.; Abele-Abula, A.M.; Abega, S.F.; Aboyans, V.; et al. Global, Regional, and National Comparative Risk Assessment of 84 Behavioural, Environmental and Occupational, and Metabolic Risks or Clusters of Risks, 1990–2016: A Systematic Analysis for the Global Burden of Disease Study 2016. *Lancet* **2017**, 390, 1345–1422. [CrossRef]

3. WHO. Global Health Estimates 2015: Deaths by Cause, Age, Sex, by Country and by Region, 2000–2015. Available online: https://www.who.int/data/gho/data/themes/mortality-and-global-health-estimates (accessed on 4 July 2022).

4. FAO; Intake. *Global Report on the State of Dietary Data*; FAO: Rome, Italy, 2022. [CrossRef]

5. International Food Policy Research Institute. *Global Nutrition Report 2014: Actions and Accountability to Accelerate the World’s Progress on Nutrition*; IFPRI: Washington, DC, USA, 2014; ISBN 978-0-89629-564-3.

6. Global Panel on Agriculture and Food Systems for Nutrition. *Food Systems and Diets: Facing the Challenges of the 21st Century*; Global Panel on Agriculture and Food Systems for Nutrition: London, UK, 2016; ISBN 978-0-9956228-0-7.

7. Haddad, L.; Hawkes, C.; Webb, P.; Thomas, S.; Beddington, J.; Waage, J.; Flynn, D. A New Global Research Agenda for Food. *Nature* **2016**, 540, 30–32. [CrossRef] [PubMed]

8. Gibson, R.S. *Principles of Nutritional Assessment*, 2nd ed.; Oxford University Press: New York, NY, USA, 2005; ISBN 0195171691.

9. European Food Safety Authority (EFSA). Use of the EFSA Comprehensive European Food Consumption Database in Exposure Assessment. *EFSA J.* **2011**, 9, 2097. [CrossRef]

10. Intake—Center for Dietary Assessment. *Improving Nutrition through the Development of Country-Specific Quantitative 24-Hour Dietary Recall Data; Intake/FHI Solutions*: Washington, DC, USA, 2020.

11. Intake—Center for Dietary Assessment. *Improving Nutrition through Food Fortification Policy and Programming: Ensuring an Evidence-Based Design with Country-Specific Quantitative 24-Hour Dietary Recall Data; Intake/FHI Solutions*: Washington, DC, USA, 2020.

12. Poore, J.; Nemecek, T. Reducing Food’s Environmental Impacts through Producers and Consumers. *Science* **2018**, 360, 987–992. [CrossRef]

13. Fanzo, J.; Bellows, A.L.; Spiker, M.L.; Thorne-Lyman, A.L.; Bloem, M.W. The Importance of Food Systems and the Environment for Nutrition. *Am. J. Clin. Nutr.* **2021**, 113, 7–16. [CrossRef]

14. Food and Agricultural Organization; World Health Organization. FAO/WHO Global Individual Food Consumption Data Tool. Available online: http://www.fao.org/gift-individual-food-consumption/en/ (accessed on 7 June 2022).

15. Leclercq, C.; Allemand, P.; Balcerzak, A.; Branca, F.; Sousa, R.F.; Lartey, A.; Lipp, M.; Quadros, V.P.; Verger, P. FAO/WHO GIFT (Global Individual Food Consumption Data Tool): A Global Repository for Harmonised Individual Quantitative Food Consumption Studies. *Proc. Nutr. Soc.* **2019**, 78, 484–495. [CrossRef]

16. Global Dietary Database. Available online: https://www.globaldietarydatabase.org/ (accessed on 7 June 2022).

17. Huybrechts, I.; Aglago, E.K.; Mullee, A.; De Keyzer, W.; Leclercq, C.; Allemand, P.; Balcerzak, A.; Zotor, F.B.; Gunter, M.J. Global Comparison of National Individual Food Consumption Surveys as a Basis for Health Research and Integration in National Health Surveillance Programmes. *Proc. Nutr. Soc.* **2017**, 76, 549–567. [CrossRef]

18. Institute for Health Metrics and Evaluation. Available online: https://www.healthdata.org/ (accessed on 7 June 2022).

19. World Bank. World Bank Country and Lending Groups. Available online: https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups (accessed on 7 June 2022).

20. de Keyzer, W.; Bracke, T.; McNaughton, S.A.; Parnell, W.; Moshtega, A.J.; Pereira, R.A.; Lee, H.S.; van’t Vee, P.; de Henauw, S.; Huybrechts, I. Cross-Continental Comparison of National Food Consumption Survey Methods—A Narrative Review. *Nutrients* **2015**, 7, 3587–3620. [CrossRef]

21. Coates, J.; Colaizetti, B.; Fiedler, J.L.; Wirth, J.; Lividini, K.; Rogers, B. A Program Needs-Driven Approach to Selecting Dietary Assessment Methods for Decision-Making in Food Fortification Programs. *Food Nutr. Bull.* **2012**, 33 (Suppl. S3), S146–S156. [CrossRef]

22. Holmes, B.; Dick, K.; Nelson, M. A Comparison of Four Dietary Assessment Methods in Materially Deprived Households in England. *Public Health Nutr.* **2008**, 11, 444–456. [CrossRef]
121. Schultz, J.T.; Vatucawaqa, P.T. Impact of Iron Fortified Flour in Child Bearing Age (CBA) Women in Fiji 2010 Report; National Food and Nutrition Centre: Suva, Fiji, 2012.
122. Kobati, G.; Larney, A.; Marquis, G.; Colecraft, E.; Butler, L. Dietary Intakes and Body Mass Indices of Non-Pregnant, Non-Lactating (NPBL) Women from the Coastal and Guinea Savannah Zones of Ghana. Afr. J. Food Agric. Nutr. Dev. 2012, 12, 3843–3861. [CrossRef]
123. Luke, A.; Bovet, P.; Forrester, T.E.; Lambert, E.V.; Plange-Rhule, J.; Schoeller, D.A.; Dugas, L.R.; Durazo-Arvizu, R.A.; Shoham, D.; Cooper, R.S.; et al. Protocol for the Modeling the Epidemiologic Transition Study: A Longitudinal Observational Study of Energy Balance and Change in Body Weight, Diabetes and Cardiovascular Disease Risk. BMC Public Health 2011, 11, 927. [CrossRef] [PubMed]
124. Ghosh, S.; Smriga, M.; Vuvor, F.; Suri, D.; Mohammed, H.; Armah, S.M.; Scrimshaw, N.S. Effect of Lysine Supplementation on Health and Morbidity in Subjects Belonging to Poor Peri-Urban Households in Accra, Ghana. Am. J. Clin. Nutr. 2010, 92, 928–939. [CrossRef] [PubMed]
125. Azupogo, F.; Abizari, A.R.; Osendarp, S.J.M.; Feskens, E.J.; Brouwer, I.D. Ten2Twenty-Ghana: Study Design and Methods for an Innovative Randomized Controlled Trial with Multiple-Micronutrient–Fortified Biscuits among Adolescent Girls in Northeastern Ghana. Curr. Dev. Nutr. 2021, 5, nzaa184. [CrossRef] [PubMed]
126. FANTA. Development of Evidence-Based Dietary Recommendations for Children, Pregnant Women and Lactating Women Living in the Western Highlands of Guatemala; FHI 360/FANTA: Washington, DC, USA, 2014.
127. Marcinkevage, J.; Mayén, A.L.; Zuleta, C.; DiGirolamo, A.M.; Stein, A.D.; Ramirez-Zea, M. Relative Validity of Three Food Frequency Questionnaires for Assessing Dietary Intakes of Guatemalan Schoolchildren. PLoS ONE 2015, 10, e0139125. [CrossRef]
128. Martorell, R.; Behrman, J.R.; Flores, R.; Stein, A.D. Rationale for a Follow-up Study Focusing on Economic Productivity. Food Nutr. Bull. 2005, 26, 5–14. [CrossRef]
129. Stein, A.D.; Melgar, P.; Hoddinott, J.; Martorell, R. Cohort Profile: The Institute of Nutrition of Central America and Panama (INCAP) Nutrition Trial Cohort Study. Int. J. Epidemiol. 2008, 37, 716–720. [CrossRef]
130. Martorell, R.; Behrman, J.R.; Grajeda, R.; Hoddinott, J. The Human Capital 2002–04 Study in Guatemala: A Follow-up to the INCAP Longitudinal Study 1969–77. Food Nutr. Bull. 2002, 26 (Suppl. S1), S1–S124.
131. Stein, A.D.; Barnhart, H.X.; Hickey, M.; Ramakrishnan, U.; Schroeder, D.G.; Martorell, R. Prospective Study of Protein-Energy Supplementation Early in Life and of Growth in the Subsequent Generation in Guatemala. Am. J. Clin. Nutr. 2003, 78, 162–167. [CrossRef]
132. Mazariegos, M.; Tomas, V.; Méndez, H.; Román, A.V.; Boy, E. Ingesta de Alimentos Poco Saludables y Su Contribución Dietética En Adolescentes Rurales de Guatemala; IFPRI, HarvestPlus, INCAP: Guatemala City, Guatemala, 2018; Available online: http://www.incap.int/index.php/es/publicaciones-conjuntas-con-otras-instituciones/213-ingesta-de-alimentos-poco-saludables-y-su-contribucion-dietetica-en-adolescentes-rurales-de-guatemala/file (accessed on 7 June 2022).
133. Tomas, V.; Mazariegos, M.; Méndez, H.; Román, A.V.; Boy, E. Ingesta y Diversidad Dietética En Mujeres Adolescentes Rurales de Guatemala; IFPRI, HarvestPlus, INCAP: Guatemala City, Guatemala, 2018; Available online: http://www.incap.int/index.php/es/listado-de-documentos/publicaciones-conjuntas-con-otras-instituciones/slan-2018/214-ingesta-y-diversidad-dietetica-en-mujeres-adolescentes-rurales-de-guatemala/file (accessed on 7 June 2022).
134. Flax, V.L.; Siega-Riz, A.M.; Reinhart, G.A.; Bentley, M.E. Provision of Lipid-Based Nutrient Supplements to Honduran Children Increases Their Dietary Macro- and Micronutrient Intake without Displacing Other Foods. Matern. Child Nutr. 2015, 11, 203–213. [CrossRef]
135. National Institute of Nutrition. Diet and Nutritional Status of Rural Population, Prevalence of Hypertension & Diabetes among Adults and Infant & Young Child Feeding Practices-Report of Third Repeat Survey; National Institute of Nutrition (Indian Council of Medical Research): Hyderabad, India, 2012.
136. Misra, P.; Srivastava, R.; Misra, A.; Kant, S.; Kardam, P.; Vikram, N.K. Vitamin D Status of Adult Females Residing in Ballabgarh Health and Demographic Surveillance System: A Community-Based Study. Indian J. Public Health 2017, 61, 194–198. [CrossRef] [PubMed]
137. Rao, S.; Yajnik, C.S.; Kanade, A.; Fall, C.H.D.; Margetts, B.M.; Jackson, A.A.; Shier, R.; Joshi, S.; Rege, S.; Lubree, H.; et al. Intake of Micronutrient-Rich Foods in Rural Indian Mothers Is Associated with the Size of Their Babies at Birth: Pune Maternal Nutrition Study. J. Nutri. 2001, 131, 1217–1224. [CrossRef] [PubMed]
138. Ekbote, V.H.; Khadilkar, A.V.; Khadilkar, V.V.; Chiponkor, S.A.; Mughal, Z. Dietary Patterns with Special Reference to Calcium Intake in 2-16-Year-Old Urban Western Indian Children. Indian J. Public Health 2017, 61, 188–193. [CrossRef]
139. Chiponkor, S.; Khadilkar, V.; Pandit-Agrawal, D.; Kawade, L.; Kadam, N.; Ekbote, V.; Sanwalka, N.; Khadilkar, V. Influence of Micronutrient Status and Socioeconomic Gradient on Growth Indices of 2-18-Year-Old Indian Girls. J. Pediatr. Endocrinol. Metab. 2013, 26, 825–832. [CrossRef] [PubMed]
140. Indira Gandhi Institute of Development Research; National Institute of Nutrition. Integrated Survey on Agriculture and Nutrition in Bihar and Odisha 2014–2015. Available online: https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/YU5PEX (accessed on 3 June 2022).
141. Johnson, C.; Santos, J.A.; Sparks, E.; Raj, T.S.; Mohan, S.; Garg, V.; Rogers, K.; Maulik, P.K.; Prabhakaran, D.; Neal, B.; et al. Sources of Dietary Salt in North and South India Estimated from 24 Hour Dietary Recall. Nutrients 2019, 11, 318. [CrossRef]
142. Sandjaja, S.; Budiman, B.; Harahap, H.; Ernawati, F.; Soekatri, M.; Widodo, Y.; Sumedi, E.; Rustan, E.; Sofia, G.; Syarief, S.N.; et al. Food Consumption and Nutritional and Biochemical Status of 0-5-12-Year-Old Indonesian Children: The SEANUTS Study. *Br. J. Nutr.* 2013, 110 (Suppl. S9), S1–S20. [CrossRef]

143. Sekiyama, M.; Roosita, K.; Ohtsuka, R. Developmental Stage-Dependent Influence of Environmental Factors on Growth of Rural Sundanese Children in West Java, Indonesia. *Am. J. Phys. Anthropol.* 2015, 157, 94–106. [CrossRef]

144. Tawfeek, H.I.; Muhyaddin, O.M.; Al-Sanwi, H.I.; Al-Baety, N. Effect of Maternal Dietary Vitamin C Intake on the Level of Vitamin C in Breastmilk among Nursing Mothers in Baghdad, Iraq. *Food Nutr. Bull.* 2002, 23, 244–247. [CrossRef][PubMed]

145. Ferguson, E.; Chege, P.; Kimiywe, J.; Wiesmann, D.; Hotz, C. Zinc, Iron and Calcium Are Major Limiting Nutrients in the Complementary Diets of Rural Kenyan Children. *Matern. Child Nutr.* 2015, 11, 6–20. [CrossRef]

146. Ministry of Health Kenya. *The Kenya National Micronutrient Survey 2011*; Ministry of Health: Nairobi, Kenya, 2011.

147. Waswa, L.M.; Jordan, I.; Herrmann, J.; Krawinkel, M.B.; Keding, G.B. Community-Based Educational Intervention Improved the Diversity of Complementary Diets in Western Kenya: Results from a Randomized Controlled Trial. *Public Health Nutr.* 2015, 18, 3406–3419. [CrossRef]

148. Mwaniki, E.W.; Makokha, A.N.; Muttungu, J.N. Nutrition Status and Associated Morbidity Risk Factors among Orphanage and Non-Orphanage Children in Selected Public Primary Schools within Dagonetti, Nairobi, Kenya. *East Afr. Med. J.* 2014, 91, 289–297.

149. Ngala, S. Evaluation of Dietary Diversity Scores to Assess Nutrient Adequacy among Rural Kenyan Women. Ph.D. Thesis, Wageningen University, Wageningen, The Netherlands, 2015.

150. Semproli, S.; Canducci, E.; Ricci, E.; Gualdi-Russo, E. Nutrient Intake in 5-17-Year-Old African Boys and Girls in a Rural District of Kenya. *Nutr. Hosp.* 2011, 26, 765–774. [CrossRef]

151. Gewa, C.A.; Murphy, S.P.; Weiss, R.E.; Neumann, C.G. Determining Minimum Food Intake Amounts for Diet Diversity Scores to Maximize Associations with Nutrient Adequacy: A Case Study of Schoolchildren’s Diets in Rural Kenya. *Public Health Nutr.* 2013, 17, 2667–2673. [CrossRef]

152. M‘Kaibi, F.K.; Steyn, N.P.; Ochola, S.; Du Plessis, L. Effects of Agricultural Biodiversity and Seasonal Rain on Dietary Adequacy and Household Food Security in Rural Areas of Kenya. *BMC Public Health* 2015, 15, 422. [CrossRef]

153. Hegios, A.; Amthor, R.; Oduor Odhiambo, F. Biodiversity and Dietary Diversity in Vihiga Kenya. Available online: https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/O0CDZ1 (accessed on 3 June 2022).

154. Semproli, S.; Canducci, E.; Ricci, E.; Gualdi-Russo, E. Nutrient Intake in 5-17-Year-Old African Boys and Girls in a Rural District of Kenya. *Nutr. Hosp.* 2011, 26, 765–774. [CrossRef]

155. Boedecker, J.; Odhiambo Odour, F.; Lachat, C.; Van Damme, P.; Kennedy, G.; Termote, C. Exploring Agrobiodiversity for Nutrition: Household on-Farm Agrobiodiversity Is Associated with Improved Quality of Diet of Young Children in Vihiga, Kenya. *PLoS ONE* 2019, 14, e0219680. [CrossRef]

156. M‘Kaibi, F.K.; Steyn, N.P.; Ochola, S.; Du Plessis, L. Effects of Agricultural Biodiversity and Seasonal Rain on Dietary Adequacy and Household Food Security in Rural Areas of Kenya. *BMC Public Health* 2015, 15, 422. [CrossRef]

157. Waswa, L.M.; Jordan, I.; Herrmann, J.; Krawinkel, M.B.; Keding, G.B. Community-Based Educational Intervention Improved the Health Outcomes of Rural Women in East Africa. *Obes. Res.* 2002, 10, 289–297. [CrossRef]

158. Sibai, A.M.; Hwalla, N.; Adra, N.; Rahal, B. Prevalence and Covariates of Obesity in Lebanon: Findings from a National Cross-Sectional Study in Lebanon. *BMC Public Health* 2006, 9, 291–297. [CrossRef]

159. M’Kaibi, F.K.; Steyn, N.P.; Ochola, S.; Du Plessis, L. Effects of Agricultural Biodiversity and Seasonal Rain on Dietary Adequacy and Household Food Security in Rural Areas of Kenya. *BMC Public Health* 2015, 15, 422. [CrossRef]

160. Al Khatib, L.; Obeid, O.; Sibai, A.M.; Batal, M.; Adra, N.; Hwalla, N. Folate Deficiency Is an Important Contributor to Anemia among Reproductive Age Women in Lebanon. *Am. J. Phys. Anthropol.* 2015, 91, 308–316. [CrossRef][PubMed]

161. Oduro, O.O.; Boedecker, J.; Kennedy, G.; Termote, C. Exploring Agrobiodiversity for Nutrition: Household on-Farm Agrobiodiversity Is Associated with Improved Quality of Diet of Young Children in Vihiga, Kenya. *PLoS ONE* 2019, 14, e0219680. [CrossRef]

162. Oduro, O.O.; Boedecker, J.; Kennedy, G.; Mituki-Mungiria, D.; Termote, C. Caregivers’ Nutritional Knowledge and Attitudes Mediate Seasonal Shifts in Children’s Diets. *Matern. Child Nutr.* 2019, 15, e12633. [CrossRef]

163. Boedecker, J.; Odhiambo Odour, F.; Lachat, C.; Van Damme, P.; Kennedy, G.; Termote, C. Participatory Farm Diversification and Nutrition Education Increase Dietary Diversity in Western Kenya. *Matern. Child Nutr.* 2019, 15, e12803. [CrossRef]

164. Sarfo, J.; Pawelzik, E.; Keding, G.B. Dietary Patterns as Characterized by Food Processing Levels and Their Association with the Health Outcomes of Rural Women in East Africa. *Nutrients* 2021, 13, 2866. [CrossRef]

165. Lao Tropical and Public Health Institute. *Food Consumption Survey in Lao PDR 2016–2017*; Ministry of Health: Vientiane, Lao PDR, 2017.

166. Barennes, H.; Simmala, C.; Odermatt, P.; Thaybouavone, T.; Vallee, J.; Martinez-Ussell, B.; Newton, P.N.; Strobel, M. Postpartum Traditions and Nutrition Practices among Urban Lao Women and Their Infants in Vientiane, Lao PDR. *Eur. J. Clin. Nutr.* 2009, 63, 323–331. [CrossRef]

167. Nasreddine, L.; Hwalla, N.; Saliba, A.; Akl, C.; Naja, F. Prevalence and Correlates of Preschool Overweight and Obesity amidst the Nutrition Transition: Findings from a National Cross-Sectional Study in Lebanon. *Nutrients* 2017, 9, 266. [CrossRef][PubMed]

168. Nabhani-Zeidan, M.; Naja, F.; Nasreddine, L. Dietary Intake and Nutrition-Related Knowledge in a Sample of Lebanese Adolescents Contrasting Socioeconomic Status. *Food Nutr. Bull.* 2011, 32, 75–83. [CrossRef][PubMed]

169. Hwalla, N.; Adra, N.; Jackson, R.T. Iron Deficiency Is an Important Contributor to Anemia among Reproductive Age Women in Lebanon. *Ecol. Food Nutr.* 2004, 43, 77–92. [CrossRef]

170. Sibai, A.M.; Hwalla, N.; Adra, N.; Rahal, B. Prevalence and Covariates of Obesity in Lebanon: Findings from the First Epidemiological Study. *Obes. Res.* 2003, 11, 1353–1361. [CrossRef]

171. Al Khatib, L.; Obeid, O.; Sibai, A.M.; Batal, M.; Adra, N.; Hwalla, N. Folate Deficiency Is Associated with Nutritional Anaemia in Lebanese Women of Childbearing Age. *Public Health Nutr.* 2006, 9, 921–927. [CrossRef]

172. Chamieh, M.C.; Moore, H.J.; Summerbell, C.; Tamim, H.; Sibai, A.M.; Hwalla, N. Diet, Physical Activity and Socio-Economic Disparities of Obesity in Lebanese Adults: Findings from a National Study Disease Epidemiology—Chronic. *BMC Public Health* 2015, 15, 279. [CrossRef][PubMed]

173. Moghames, P.; Hammami, N.; Hwalla, N.; Yazbeck, N.; Shoaib, H.; Nasreddine, L.; Naja, F. Validity and Reliability of a Food Frequency Questionnaire to Estimate Dietary Intake among Lebanese Children. *Nutr. J.* 2016, 15, 4. [CrossRef][PubMed]
168. Papazian, T.; Hout, H.; Sibai, D.; Helou, N.; Younes, H.; El Osta, N.; Khabbaz, L.R. Development, Reproducibility and Validity of a Food Frequency Questionnaire among Pregnant Women Adherent to the Mediterranean Dietary Pattern. *Clin. Nutr.* **2016**, *35*, 1550–1556. [CrossRef]

169. van den Berg, V.L.; Seheri, L.; Raubenheimer, J. Body Mass Index of 16-Year Olds in Urban Maseru, Lesotho. *Afr. J. Prim. Health Care Fam. Med.* **2014**, *6*, 1–14. [CrossRef]

170. Huew, R.; Maguire, A.; Waterhouse, P.; Moynihan, P. Nutrient Intake and Dietary Patterns of Relevance to Dental Health of 12-Year-Old Libyan Children. *Public Health Nutr.* **2014**, *17*, 1107–1113. [CrossRef]

171. Elhisadi, T.A. Food and Nutrients Intake among 12-Year-Old Libyan Children. *Public Health Nutr.* **2013**, *16*, 1705–1712. [CrossRef] [PubMed]

172. Mtimuni, B.; Nhkoma, O.; Katundu, M.; Geresomo, N. Food and Nutrients Intake among Libyan School Children. *Public Health Nutr.* **2013**, *16*, 1550–1556. [CrossRef]

173. Moursi, M.M.; Arimond, M.; Dewey, K.G.; Trínez-Silva, I.; Espinosa-Montero, J.; Hernández-Barrera, L.; López-Olmedo, N.; Garcia-Guerra, A.; Rodriguez-Ramírez, S.; Ramírez-Silva, I.; Villalpando, S.; Carriquiry, A.; Rivero, J.A. Usual Vitamin Intakes by Mexican Populations. *Nutrients* **2015**, *6*, 4468–4494. [CrossRef] [PubMed]

174. Moursi, M.M.; Arimond, M.; Dewey, K.G.; Trínez-Silva, I.; Espinosa-Montero, J.; Hernández-Barrera, L.; López-Olmedo, N.; Garcia-Guerra, A.; Rodriguez-Ramírez, S.; Ramírez-Silva, I.; Villalpando, S.; Carriquiry, A.; Rivero, J.A. Usual Vitamin Intakes by Mexican Populations. *J. Nutr.* **2016**, *146*, 1866S–1873S. [CrossRef] [PubMed]

175. Pedroza-Tobías, A.; Fernández-Barrera, L.; López-Olmedo, N.; Garcia-Guerra, A.; Rodriguez-Ramírez, S.; Ramírez-Silva, I.; Villalpando, S.; Carriquiry, A.; Rivero, J.A. Usual Vitamin Intakes by Mexican Populations. *J. Nutr.* **2016**, *146*, 1874S–1880S. [CrossRef] [PubMed]

176. Hotz, C.; Gibson, R.S. Complementary Feeding Practices and Dietary Intakes from Complementary Foods amongst Weanlings in Rural Malawi. *Afr. J. Clin. Nutr.* **2001**, *5*, 841–849. [CrossRef] [PubMed]

177. Mtimuni, B.; Nhkoma, O.; Katundu, M.; Geresomo, N. Baseline Nutrition Survey Ntchisi ADP, Malawi; WorldFish: Lilongwe, Malawi, 2010.

178. Institute for Public Health (IPH). *National Health and Morbidity Survey 2014: Malaysian Adult Nutrition Survey. Vol. 1: Methodology and General Findings*; Institute for Public Health, Ministry of Health: Kuala Lumpur, Malaysia, 2014; ISBN 9789832387114.

179. Balasubramanian, G.V.; Chuah, K.A.; Khor, B.H.; Suelaheen, A.; Yeak, Z.W.; Chinnia, K.; Sundram, K.; Karupaiyah, T. Associations of Eating Mode Defined by Dietary Patterns with Cardiometabolic Risk Factors in the Malaysia Lipid Study Population. *Nutrients* **2020**, *12*, 2080. [CrossRef] [PubMed]

180. Karupaiyah, T.; Chuah, K.A.; Chinnia, K.; Pressman, P.; Clemens, R.A.; Hayes, A.W.; Sundram, K. A Cross-Sectional Study on the Dietary Pattern Impact on Cardiovascular Disease Biomarkers in Malaysia. *Sci. Rep.* **2019**, *9*, 13666. [CrossRef]

181. Golder, A. Nutritional Status of Mothers and Young Children in Maldives—How Can It Be Improved? Diploma Thesis, University of Hohenheim, Stuttgart, Germany, 1999.

182. Golder, A.M.; Erhardt, J.G.; Scherbaum, V.; Saeed, M.; Biesalski, H.K.; Fürst, P. Dietary Intake and Nutritional Status of Women and Pre-School Children in the Republic of the Maldives. *Public Health Nutr.* **2001**, *4*, 773–780. [CrossRef] [PubMed]

183. Fogny-Fanou, N.; Koreissi, Y.; Dossa, R.; Brouwer, I. Consumption of, and Beliefs about Fonio (Digitaria Exilis) in Urban Area in Mali. *Afr. J. Food Agric. Nutr. Dev.* **2013**, *11*, 14–21. [CrossRef]

184. Kennedy, G.; Fanou, N.; Seghieri, C.; Brouwer, I.D. Dietary Diversity as a Measure of the Micronutrient Adequacy of Women's Diets: Results from Bamako, Mali Site; Food and Nutrition Technical Assistance II Project; FHI 360: Washington, DC, USA, 2009.

185. Gammino, V.M.; Gittelsohn, J.; Langidrik, J.R. Dietary Intake in Infants and Young Children in the Marshall Islands. *Pac. Health Dialog* **2007**, *14*, 13–21.

186. Sánchez-Pimenta, T.G.; López-Olmedo, N.; Rodríguez-Ramírez, S.; García-Guerra, A.; Rivera, J.A.; Carriquiry, A.L.; Villalpando, S. High Prevalence of Inadequate Calcium and Iron Intakes by Mexican Population Groups as Assessed by 24-Hour Recalls. *J. Nutr.* **2016**, *146*, 1856S–1865S. [CrossRef] [PubMed]

187. Ramírez-Silva, I.; Rodríguez-Ramírez, S.; Barragán-Vázquez, S.; Castellanos-Gutiérrez, A.; Reyes-García, A.; Martínez-Piña, A.; Pedroza-Tobías, A. Prevalence of Inadequate Intake of Vitamins and Minerals in the Mexican Population Correcting by Nutrient Retention Factors, Ensanut 2016. *Salud Publica Mex.* **2020**, *62*, 521–531. [CrossRef] [PubMed]

188. Pedroza-Tobías, A.; Hernández-Barrera, L.; López-Olmedo, N.; García-Guerra, A.; Rodríguez-Ramírez, S.; Ramírez-Silva, I.; Villalpando, S.; Carriquiry, A.; Rivero, J.A. Usual Vitamin Intakes by Mexican Populations. *J. Nutr.* **2016**, *146*, 1866S–1873S. [CrossRef] [PubMed]

189. López-Olmedo, N.; Carriquiry, A.L.; Rodríguez-Ramírez, S.; Ramírez-Silva, I.; Espinosa-Montero, J.; Hernández-Barrera, L.; Campirano, F.; Martínez-Tapia, B.; Rivera, J.A. Usual Intake of Added Sugars and Saturated Fats Is High While Dietary Fiber Is Low in the Mexican Population. *J. Nutr.* **2016**, *146*, 1856S–1865S. [CrossRef] [PubMed]

190. Ramírez-Silva, I.; Rodríguez-Ramírez, S.; Barragán-Vázquez, S.; Castellanos-Gutiérrez, A.; Reyes-García, A.; Martínez-Piña, A.; Pedroza-Tobías, A. Prevalence of Inadequate Intake of Vitamins and Minerals in the Mexican Population Correcting by Nutrient Retention Factors, Ensanut 2016. *Salud Publica Mex.* **2020**, *62*, 521–531. [CrossRef] [PubMed]

191. Castellanos-Gutiérrez, A.; Sánchez-Pimenta, T.G.; Batis, C.; Willett, W.; Rivera, J.A. Toward a Healthy and Sustainable Diet in Mexico: Where Are We and How Can We Move Forward? *Am. J. Clin. Nutr.* **2021**, *113*, 1177–1184. [CrossRef] [PubMed]

192. Freese, R.; Korkalo, L.; Vessby, B.; Tengblad, S.; Vaara, E.M.; Hauta-Alus, H.; Selvester, K.; Mutanen, M. Essential Fatty Acid Intake and Serum Fatty Acid Composition among Adolescent Girls in Central Mozambique. *Br. J. Nutr.* **2015**, *113*, 1086–1095. [CrossRef] [PubMed]

193. Korkalo, L.; Freese, R.; Alfthan, G.; Fidalgo, L.; Mutanen, M. Poor Micronutrient Intake and Status Is a Public Health Problem among Adolescent Mozambican Girls. *Nutr. Res.* **2015**, *35*, 664–673. [CrossRef] [PubMed]
