



UNIVERSIDADE DE BRASÍLIA
FACULDADE DE CIÊNCIAS DA SAÚDE
DEPARTAMENTO DE NUTRIÇÃO
TRABALHO DE CONCLUSÃO DE CURSO

Júlia Laura Corrêa Rezende - 18/0020765

Maria Carolina de Medeiros Frazão Duarte - 18/0035665

Guias Alimentares para crianças e adolescentes: Uma Scoping Review

Brasília – DF

2021

Júlia Laura Corrêa Rezende - 18/0020765

Maria Carolina de Medeiros Frazão Duarte - 18/0035665

Guias Alimentares para crianças e adolescentes: Uma Scoping Review

Professora orientadora: Maria Natacha Toral Bertolin

Professora co-orientadora: Giselle Rhaisa do Amaral e Melo

**TRABALHO DE CONCLUSÃO DE CURSO
APRESENTADO COMO REQUISITO À
OBTENÇÃO DO TÍTULO DE BACHAREL
EM NUTRIÇÃO PELA UNIVERSIDADE
DE BRASÍLIA.**

BRASÍLIA – DF

2021

Objective

This study aims at reviewing Food-based dietary guidelines (FBDGs) with content targeted at children and adolescents to present their main characteristics that could enable comparisons among countries.

Design

The first part of the study was a search of the FBDGs available in the Food and Agriculture Organization (FAO) website and the second part comprehended a systematic review to reach FBDGs for children or adolescents non-listed in FAO's website. Data extraction included year of publication, language and guidelines for the target group.

Results

From FAO website searches, 105 documents were found, and 17 of them couldn't be translated. The systematic review search resulted in 5190 articles, and none led to any material of interest. Results were 88 FBDG explored, of which 40 were specific for children and/or adolescents and 48 for the general population, with information directed for the aim group. All of the material was published after 2001. Latin America and Caribbean was the region that presented more specific FBDGs, and the majority of countries with guidelines for fruits and vegetables. It 's frequent the information about fats (15 countries) and sugar (25 countries) consumption reduction. Reduction of sodium intake appears majority in materials after 2015. Food hygiene guidelines are recurrent in Latin America documents. NOVA classification was adopted in 5 countries. Moreover, 25 countries approach recommendations for mealtimes.

Conclusions

The data extracted from the found FBDGs were summarized, in order to compare and to acknowledge the available content in this field.

Key words

Adolescent; Child; Health promotion; Dietary recommendations; Scoping Review

Introduction

Eating behaviors are shaped in childhood and get settled in adolescence, being probably maintained in adult life [1,2]. It is clear in the literature the role that inadequate eating behaviors play in the development of obesity and chronic diseases [3]. Therefore, alertness is needed in order to build a more conscious diet based on healthy and sustainable habits [2].

Food-based dietary guidelines (FBDGs) are a practical tool for this purpose, since they provide advice on foods, food groups and dietary patterns to promote overall health, foster healthy eating habits and lifestyles, and prevent chronic diseases [14]. They can effectively assist the general population, health professionals and policy makers in different areas, such as nutrition in public health, agriculture and nutrition education [6,14]. However, the ways in which these guidelines are presented are diverse, varying between countries [7] and according to the stages of life they are targeted.

Horta et al. have already conducted a review of FBDGs aimed at children and adolescents; however, it is outdated, since it was conducted in 2010. Recently, two systematic reviews aimed at comparing FBDGs for adults [9,10], but no other focused on children and adolescents were found.

Thus, this study aimed at reviewing the FBDGs with content targeted at children and adolescents around the world, providing information to policy makers on their main characteristics, in order to enable and assist improvements in the country's tool and comparison among countries.

Methods

To the subject of the present study, a scoping review seems to be a more effective way to identify the types of available evidence in a given field [11]. This scoping review was written according to the PRISMA-ScR (Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews) checklist [12], and the protocol registration is available online under DOI registration, 10.17605/OSF.IO/J5Z6R [13].

All FBDGs available were considered, independent of the version, as complete FBDG, folder or food guide. "Food guide" and FBDG were considered synonymous. The information was sought not only in materials specifically for children and adolescents, but also in general population aimed material of each country. The nutrition guidelines considered for this study were the ones organized in material as guidelines, other information spread over the documents were considered as recommendations or orientation.

This study was divided into two parts. The first one corresponds to a search conducted in the Food and Agriculture Organization (FAO) website [14], which compiles FBDGs around the world. The decision for this database considered FAO's commitment in elaboration, review and implementation of guides of which guidelines are scientific-based.

Two reviewers (1R and 2R) were responsible for the extraction of FBDG with information for the intended group. In case there was no information for children and adolescents, the material was excluded. For documents whose existence was indicated in FAO's website, but weren't available, when there was an indication of the existence of a more recent version of the material in the website, and/or when an earlier FBDG was from previous knowledge of 1R and 2R, a search in official government pages of the respective countries was done. This phase lasted from February 2021 up to March 2021. Materials in English, Spanish, Portuguese, French, German, Italian, Chinese, Korean and Japanese were translated and had its information extracted.

Information registered of each material found was: whether it was specific or not for children and/or adolescents, country of origin, region (Latin America and the Caribbean, Europe, Asia and the Pacific, North America, Africa and Near East), language, year of publication, age group for which the information was intended (infants and children under 24 months-old, preschoolers and school-age children between 25 months-old and 9 years-old, and adolescents from 10 to 19 years-old), intended audience (e.g., general population, health professionals), disposition of information in the general FGDBs (e.g., in a specific chapter or annex), and the content directed to the age group. Regarding the content, variables registered were about the presence of a food icon, food groups and/or portion recommendations, recommendations for mealtimes (e.g., encourages involving the child in preparing meals or eating with the child) and other relevant recommendations, as: fruits and vegetables guidelines, NOVA food classification system, hygiene guidelines, healthy complementary feeding guidelines, eating habits and commensality, recommendation to avoid sugary foods and sweets, fats related information (to limit consumption or about the adequate sources), water ingest, sodium/salt limitation, exclusive breastfeeding and continued breastfeeding. The table used for this extraction is annexed in supplementary material.

The second part of the study, conducted in March 2021, comprehends a systematic review aiming to identify papers that mentioned FBDGs non-listed in FAO's website for children or adolescents. Papers that mention FBDGs already identified on FAO's page were not included. Searches were conducted in the following databases: Lilacs, Scielo, PubMed and Web of Science e Google Scholar (100 firsts results). The search, conducted by two

reviewers (1R and 2R), was for articles that mentioned Guidelines for children and adolescents or for the general population with specific orientation for the aimed age group. The primary search strategy adopted for the PubMed database, and adapted for the other ones, is described in table 1.

Papers could be in English, Spanish or Portuguese, without a limit of year of publication. The risk of bias risk was not performed since the aim of the study was not to evaluate the included articles. For the entire selection process, the app Rayyan was used [14]. If there was a new FGDB identified, the data extraction would be the same described before.

The materials will be described in a narrative form and with data organized in tables, with no intention of qualifying them as better or worse than each other.

Table 1. Search Strategy for PubMed database.

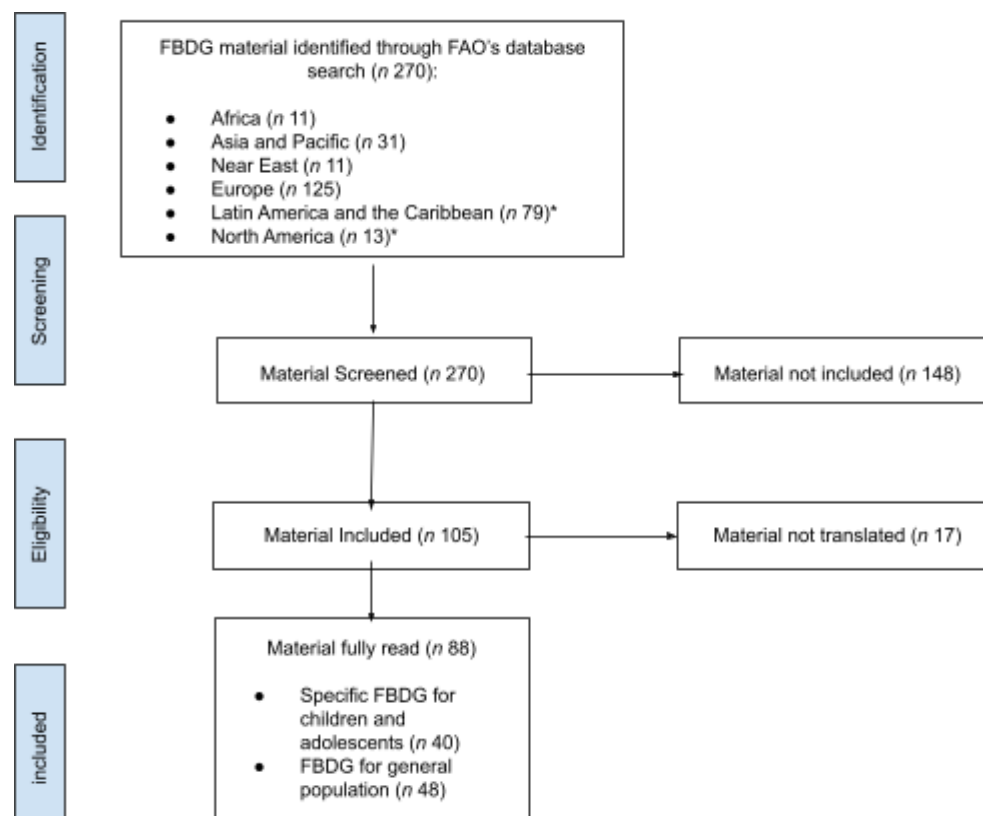
Database	Search Strategy
PubMed	<p>Infant OR Infants OR Baby OR Babies OR “Preschool child” OR “Preschool children” OR Newborn OR Newborns OR “Young child” OR “Young children” OR Child OR Children OR Kid OR Kids OR Toddler OR Toddlers OR “School child” OR “School children” OR Adolescent OR Adolescents OR teenager OR teenagers OR Teen OR Teens OR Adolescence OR Infante OR Infantes OR Niño OR Niños OR Chico OR Chicos OR Bebê OR Escolares OR “Recién nacido” OR “Recién nacidos” OR Adolescente OR Adolescentes OR Criança OR Crianças OR Bebê OR Bebês OR “Pré escolar” OR “Pré escolares” OR “Recém nascido” OR “Recém nascidos” OR Escolar OR Escolares OR Adolescência.</p> <p>AND</p> <p>“Food based dietary guidelines” OR “ Food based dietary guideline” OR FBDG OR “Food guide” OR “Food guides” OR “Nutrition Guidelines” OR “Nutrition Guideline” OR “Nutrition policy” OR “Nutrition policies” OR “Nutritional requirement” OR “Nutritional requirements” OR “Nutritional education” OR “Guías alimentarias” OR “Orientación nutricional” OR “Educación</p>

	<p>nutricional” OR “Necesidades nutricionales” OR “Política nutricional” OR “Necessidades nutricionais” OR “Educação nutricional”.</p>
--	--

Results

As presented in figure 1, from FAO’s page extraction, 270 documents were found, of which 105 had information for the aimed group. Of them, 40 [16-55] were specific for children and/or adolescents, 48 [56-103] were directed for the general population with specific information for children and/or adolescents, and 17 were not analysed because the material was not able to be translated. Searches in official government pages of the respective countries resulted in two materials: one for the general population with information for the aimed group [103] and another specific for the studied group [26].

As shown in figure 2, the search for the systematic review resulted in a total of 5190 articles, of which 4490 were not duplicates. After the analysis by 1R and 2R, 21 articles were fully read. None of the documents were used, because they have mentioned FBDGs already listed in FAO’s website for children or adolescents.



*Regions with some current documents extracted from official government websites because the ones in FAO’s webpage were outdated.

Fig 1. Flow diagram representing the selection process of material from FAO's database.

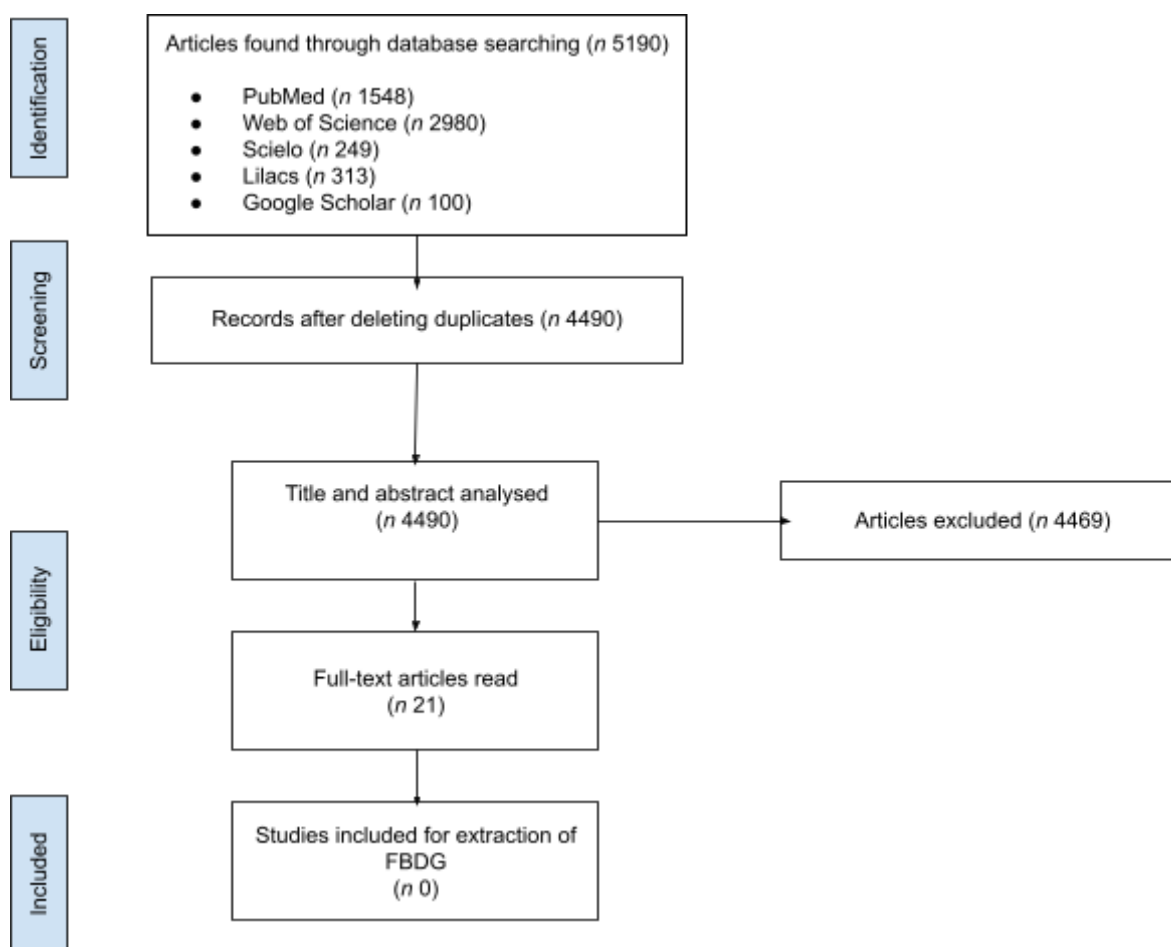


Fig 2. Flow diagram representing the selection process of articles for Part 2 (Systematic Review) of the present study.

Overview of included material

Fifty seven countries with FBDG containing specific information about the studied groups around the world were found: 37% in Latin America and the Caribbean [24-43, 79-93], 4% in North America [102, 103], 21% in Europe [44-56, 94-101], 19% in Asia and the Pacific [16-23, 64-73], 12% in Africa [57-63] and 7% in the Near East [74-78].

Most of the FBDG documents found were written in English (50%) [16-23, 38, 39, 47, 58-81, 91, 95, 96, 99-103], followed by Spanish (31%) [24-36, 40-43, 47, 80, 83-86, 88, 89, 92, 93], both French [44-46, 48, 49, 57] and German [50-55] representing 7%, each, and

the remaining documents (5%) were written in portuguese [26, 82, 97] and italian [56]. Regarding the region of origin, 40% of the documents were from Latin America and the Caribbean [79-93, 24-43], 2% from North America [102, 203], 24% from Europe [44-55, 56, 94-101], 20% from Asia and the Pacific [16-23, 64-70, 72, 73], 8% from Africa [57-63] and 6% from the Near East [74-78].

About a third (32%) [20, 21, 26, 31, 32, 40, 41, 44-48, 50-56, 58, 80, 84, 87, 90, 95, 102, 103] were dated from the past 5 years (2017-2020), 43% [16-19, 22, 23-25, 27-30, 38, 39, 42, 57, 62-68, 71, 74, 76-79, 82, 85, 86, 88, 89, 92, 100, 101] were from 2012-2016 and 13% [33-36, 69, 70, 72, 75, 83, 91, 93, 94] were published between 2007 and 2011. The minority (12%) [37, 59-61, 73, 81, 96-99] are dated before 2007 and none were published before 2000.

FBDG for general population which includes guidelines for children and adolescents

Forty six countries with general FBDG containing specific information about the studied groups around the world were found: 15 (33%) in Latin America and the Caribbean [79-93], 2 (4%) in North America [102, 103], 9 (19,5%) in Europe [56, 94-101], 9 (19,5%) in Asia and the Pacific [64-73], 7 (15%) in Africa [57-63] and 4 (9%) in the Near East [74-79]. Their main characteristics are summarized in Table 2

About the intended audience, most of the FBDG (75%) were directed for the general population [24-26, 44-46, 56-62, 65-69, 71, 73, 75-82, 85-87, 89, 91-99, 101], 41% were directed to professionals of a certain field, mainly health [58, 63, 64, 70, 72, 74, 76, 77, 82-84, 88, 91, 94-96, 98, 100, 102, 103], and 12.5% were directed for both the general population and professionals [58, 76, 77, 82, 91, 98] (Table 2).

Most of the documents (62%) [40, 41, 46, 56-60, 62-64, 67, 69, 71-73, 78, 85, 86, 88, 89, 93-96, 98-100, 103] presented food groups directed for the target population of this study. About those, some brought portion recommendations, others didn't. Ten percent [56, 67, 68, 95, 101] of FBDG have food icons and 20% [58-60, 63, 67, 88, 93-96] have recommendations for mealtimes, directed for children and adolescents (Table 2).

Table 2. Main characteristics of general FBDGs analysed.

Country (Language and year)	Age group (yo/mo*)	Phase **	Intended audience	Disposition of information	Food groups and portion recommendations	Food icon	Recommendations for mealtimes
Itália (Italian, 2018) [56]	0-3 yo; 1-2 yo; 2-3 yo; 4-6 yo; 7-10 yo; 11-14 yo; 15-17 yo.	1, 2 and 3	General population	Along with information for other age groups, a specific table for portions directed for children and adolescents.	18 food groups based on nutrients with portion recommendations for each age.	Pie chart	Not presented.
Benin (French, 2015) [57]	2-3 yo; 4-8 yo; 9-13 yo; 14-18 yo.	2 and 3	General population	Along with information for other age groups in tables.	5 food groups based on nutrients with portion recommendations for each age.	None for this age group.	Not presented.
Kenya (English, 2017) [58]	0-6 mo; 6-23 mo; 24-59 mo; 5-9 yo; 10-19 yo.	1, 2 and 3	General population, policy makers, program designers and implementers of healthy diets and physical activity programmes, nutritionists, other health	Chapter for each age-group, from birth to elderly.	16 food groups based on nutrients with no portion recommendation.	None for this age group.	Children: no pressure for eating and in a calm environment. Adolescents: eat with the company of the family, avoid screens while eating.

			practitioners, community educators, agriculture extension workers and teachers.				
Namibia (English, 2000) [59]	>2 yo.	2	General population	Mixed with information for other age groups, in a descriptive way.	4 food groups based on nutrients with no portion recommendation.	None for this age group.	3 big meals a day, with healthy snacks between.
Nigeria (English, 2006) [60]	0-6 mo; 6-12 mo; 12-24 mo; 25-60 mo (2-5 yo); 6-11 yo; 12-18 yo.	1, 2 and 3	General population	Each chapter separated in age-groups from birth to elderly.	5 food groups based on nutrients with no portion recommendation.	None for this age group.	Calm environment, no pressure for eating and the caregiver must be patient.
Seychelles (English, 2006) [61]	0-6 mo.	1	General population	Organized in guidelines with no distinction of age-group. One guideline directed for infants.	No division in food groups presented.	None for this age group.	Not presented.
Sierra Leone (English, 2016) [62]	Babies and small children,	1, 2 and 3	General population	Separate annex for each age-group.	6 food groups based on nutrients with no portion recommendation.	None for this age group.	Not presented.

	children 2-5 yo; school-age children (6-12 yo); teenagers (12-18 yo).						
South Africa (English, 2013) [63]	0-6 mo; 6-12 mo; 12-36 mo; 3-5 yo.	1 and 2	Health professionals and policy makers	Specific pediatric chapter.	9 food groups based on nutrients with no portion recommendation.	None for this age group.	Correlates parental styles and feeding styles. Encourages a responsive feeding, a calm environment, no pressure for eating, eating with the child.
Afghanistan (English, 2016) [64]	0-6 mo; 6 mo (complementary feeding); 7-8 mo; 9-11 mo; 12-24 mo.	1 and 2	Health professionals, teachers, agriculture agents	A couple of the guidelines are directed for children.	7 food groups based on nutrients with portion recommendations for each age.	None for this age group.	Not presented.
Bangladesh (English, 2013) [65, 66]	Children and adolescents; no age specification.	2 and 3	General population.	Information for the aimed group among other information.	No division in food groups presented.	None for this age group.	Not presented.

China (English, 2016) [67]	7-24 mo; 2-5 yo; 6-17 yo.	1, 2 and 3	General population.	Specific chapters for age groups.	6 food groups based on nutrients with portion recommendations for each age.	Abacus	Set a schedule for meals, the children must feed themselves and be involved in preparing the meals, 3 meals a day.
Fiji (English, 2013) [68]	-	1 and 2	General population.	Guidelines directed for the studied group.	No division in food groups presented.	Pineapple	Not presented.
India (English, 2011) [69]	6-12 mo; 1-3 yo; 4-6 yo; 7-9 yo; 10-12 yo; 13-15 yo; 16-18 yo.	1, 2 and 3	General population.	Specific annex for infants, children and adolescents.	9 food groups based on nutrients with portion recommendations for each age.	None for this age group.	Not presented.
Malaysia (English, 2010) [70]	6 mo-2 yo.	1	Nutrition educators, health providers and policy makers	Guidelines divided in chapters. 1 guideline directed for the aimed group.	No division in food groups presented.	None for this age group.	Not presented.
Philippine (English, 2012) [71]	3-5 yo; 6-9 yo; 10-12 yo; 13-18 yo.	2 and 3	General population.	Organized in guidelines, 1 of them is for the studied group.	3 food groups (energy giving; body building; body regulating) based on effect in the body with portion recommendations for each age.	None for this age group.	Not presented.
Sri Lanka (English, 2011) [72]	6-12 mo.	1	Health workers and general	Organized in guidelines, 2 of them are directed for	5 food groups based on nutrients with portion recommendations for each age.	None for this age group.	Not presented.

			population	children and adolescents. Each guideline is described in a chapter.			
Thailand (English, 2001) [73]	6-13 yo; 14-25 yo.	2 and 3	General population	Recommendations for caloric ranges, classified per age. The ranges are not separated in different chapters.	6 food groups based on nutrients with portion recommendations for each age.	None for this age group.	Not presented.
Lebanon (English, 2013) [74]	Children and adolescents; no age specification.	2 and 3	Policy makers, health care providers, dietitians, nutritionists	Information for the studied group spread in the document.	No division in food groups presented.	None for this age group.	Not presented.
Oman (English, 2009) [75]	1-5 yo; 6-14 yo; 14-18 yo.	1, 2 and 3	General population.	Portions size and recommendation in tables, separated for age groups.	6 food groups based on nutrients with portion recommendations for each age.	None for this age group.	Not presented.
Qatar (English, 2015) [76, 77]	Children and adolescents; no age specification.	1, 2 and 3	General population, health professionals and policy makers	Organized in guidelines which are divided in chapters. One guideline directed for the aimed group.	No division in food groups presented.	None for this age group.	Not presented.
Saudi Arabia	2-3 yo; 4-8	2 and 3	General	Information for the	5 food groups based on	None for this	Not presented.

(English, 2012) [78]	yo; 9-13 yo; 14-18 yo.		population	studied group spread in the document.	nutrients with portion recommendations for each age.	age group.	
Antigua and Barbuda (English, 2013) [79]	0-6 mo.	1	General population	Organized in guidelines. One guideline directed for the studied group.	No division in food groups presented.	None for this age group.	Not presented.
Argentina (Spanish, 2020) [80]	Children and adolescents; no age specification.	2 and 3	General population over 2 years-old and any food-based education agents.	Information for the studied group spread in the document.	No division in food groups presented.	None for this age group.	Not presented.
Bahamas (English, 2002) [81]	No age specification.	1	General population.	Organized in guidelines. One guideline directed for the studied group.	No division in food groups presented.	None for this age group.	Not presented.
Brazil (Portuguese, 2014) [82]	Children and adolescents; no age specification.	2 and 3	General population and health professionals.	Information for the studied group spread in the document. Influence of the media directed for children and adolescents.	No division in food groups presented for this age group.	None for this age group.	Not presented.
Dominican Republic	Children and infants	1 and 2	Health Professionals.	Information for the studied group spread	No division in food groups presented for this age group.	Pestle of nutrition.	Not presented.

(Spanish, 2009) [83]	(0-6 mo and <6 mo).			in the document. Information about complementary feeding, consumption of fruits and vegetables and breastfeeding.			
Ecuador (Spanish 2020) [84]	Children and adolescents; no age specification.	1, 2 and 3	Health Professionals	Information for the studied group spread in the document.	No division in food groups presented.	None for this age group.	Not presented.
El Salvador (Spanish, 2012) [85]	Children; no age specification.	1 and 2	General population	Information for the studied group spread in the document.	5 food groups based on nutrients with no portion recommendation.	None for this age group.	Not presented.
Guatemala (Spanish, 2012) [86]	No age specification. Children and adolescents.	2 and 3.	General population.	Information for the studied group spread in the document.	3 food groups for children and adolescents based on nutrients with intake frequency recommendation.	None for this age group.	Not presented.
Guyana (English, 2018) [87]	< 6 mo	1	General population	Organized in guidelines. One guideline directed for the studied group.	No division in food groups presented.	None for this age group.	Not presented.
Mexico (Spanish,	0-6 mo;	1, 2	Healthy	Specific chapters with	5 food groups based on	None for this	Eat in company, in a calm

2015) [88]	6-24 mo; 2-12 yo; 13-18 yo	and 3	Professionals	information directed for the studied group.	nutrients with portion recommendations for each age.	age group.	environment and with no pressure for eating.
Paraguay (Spanish, 2015) [89]	Children and adolescents, no age specification.	2 and 3	General population	Information for the studied group spread in the document. 2 guidelines mention children and adolescents.	1 food group with intake recommendation for the age group.	None for this age group.	Not presented.
Peru (Spanish, 2019) [90]	Children and adolescents; no age specification.	2 and 3	Health professionals and policy makers	Information for the studied group spread in the document.	No division in food groups presented.	None for this age group.	Not presented.
Saint Kitts and Nevis (English, 2010) [91]	Children and adolescents; no age specification.	1, 2 and 3	Health professionals, policy makers, community leaders, educators and the general population	Information for the studied group spread in the document.	No division in food groups presented.	None for this age group.	Not presented.
Uruguay (Spanish, 2016) [92]	Children; no age specification.	2	General population	Information for the studied group spread in the document.	No division in food groups presented.	None for this age group.	Not presented.

Venezuela (Spanish, 2010) [93]	Children and adolescents; no age specificatio n.	1, 2 and 3	General population	Information for the studied group spread in the document.	3 food groups based on nutrients with no portion recommendation.	None for this age group.	Eat in family
Albania (English, 2008) [94]	Children and adolescents; no age specificatio n.	1, 2 and 3	Health professionals	Specific chapters with information directed for the studied group.	10 food groups based on nutrients with portion recommendations for each age range.	None for this age group.	Eat with company, switch off TV while eating
Finland (English, 2019) [95]	Children and adolescents; no age specificatio n.	1, 2 and 3	Health Professionals	Information for the studied group spread in the document.	7 food groups based on nutrients with portion recommendations for each age range.	Plate	Eat in company and health habits.
Georgia (English, 2005) [96]	0-1 yo; 1-3 yo; school-age children; adolescents (girls: 11-15; boys: 13-16)	1, 2 and 3	Health Professionals	Specific chapters with information directed for the studied group.	8 food groups based on nutrients with no portion recommendation.	None for this age group.	Children must sit calmly while eating.
Portugal (Portugues)	Children	1, 2	General	Information for the	No division in food groups	None for this	Not presented.

e, 2002) [97]	and adolescents; no age specification.	and 3	population	studied group spread in the document.	presented.	age group.	
Spain (Spanish, 2005) [98]	Children and adolescents; no age specification.	1, 2 and 3	Health Professionals and general population	Information for the studied group spread in the document.	13 food groups based on nutrients with portion recommendations for each age range.	None for this age group.	Not presented.
Turkey (English, 2006) [99]	0-1 yo; 1-3 yo; 4-6 yo; 7-9 yo; 10-18 yo.	1, 2 and 3	General population	Information for the studied group spread in the document.	4 food groups based on nutrients with portion recommendations for each age range.	None for this age group.	Not presented.
UK (English, 2016) [100]	1-18 yo	1, 2 and 3	Health Professionals	Specific tables for each age group.	Carbohydrates, Protein and Fat. Portion recommendations for each age range.	None for this age group.	Not presented.
Ireland (English, 2016) [101]	5-12 yo; 13-18 yo	2 and 3	General population	Specific recommendations per age.	6 food groups based on nutrients with portion recommendations for each age range.	Food Pyramid	Not presented.
Canada (English, 2019) [102]	Children and adolescents; no age specification.	2 and 3	Health Professionals and policy makers	Information for the studied group spread in the document.	No division in food groups presented.	None for this age group.	Not presented.

	n.						
USA (English, 2020) [103]	0-6 mo; 6-12 mo; 1-2 yo; 2-18 yo.	1, 2 and 3	Health Professionals	Specific chapters with information directed for the studied group.	6 food groups based on nutrients with portion recommendations for each age range.	None for this age group.	Not presented.

*years old/months old

** phase 1: infants and children until 24 months-old ; phase 2: preschoolers and school-age children (25 months-old up to 9 years-old); phase 3: adolescents (10 to 19 years-old).

Specific FBDG for children and adolescents

Sixteen countries with specific FBDG for the studied group were found: 62% in Latin America and the Caribbean [24-36, 82, 83], 19% in Europe [44-55] and 19% in Asia and the Pacific [16-23]. None was found in North America, Africa and the Near East. The characteristics of those FBDGs for children and adolescents are summarized in Table 3.

Almost a third of them (32%) [22-25, 27-30, 37-41] did not present recommendations for mealtimes, 45% [22-25, 31, 32, 44-55] have specific icons for children and adolescents and 65% [16-21, 24, 25, 27-30, 33-36, 40-49] were organized in guidelines. From the studied material that present food groups, 85% [16-21, 26-37, 40-55] presents at least 4 food groups: cereals or similars, animal protein sources, milk and dairy and fruits and vegetables (Table 3).

Table 3. Main characteristics of specific FBDG analysed.

Country (language and year)	Age group (yo/mo*)	Phase **	Intended audience	Food groups and portion recommendations	Food icon	Recommendations for mealtimes	Organized in Guidelines
Australia (English, 2013) [16, 17, 18]	2-3 yo; 4-8 yo; 9-11 yo; 12-13 yo; 14-18 yo	1, 2 and 3	General population and health professionals	Vegetables and legumes/beans; fruits; grain (cereal) foods; lean meats and poultry, fish, eggs, tofu, nuts and seeds, and legumes/beans; milk and dairy products. Portion recommendations of food groups for each age groups.	None for this age group.	Turn off the TV while eating and have meals with the family.	Only for phase 2 and 3: 1- To achieve and maintain a healthy weight, be physically active and choose amounts of nutritious food and drinks to meet your energy needs. 2- Enjoy a wide variety of nutritious foods from these five food groups every day: 3- Limit intake of foods containing saturated fats, added salt, added sugars and alcohol. 4- Encourage, support and promote breastfeeding. 5- Care for your food; prepare and store it safely.
New Zealand (English, 2013 - phase 1; 2017 - phase 2; 2019 - phase 3) [19, 20,	0-2 yo; 2-12 yo; 13-18 yo	1, 2 and 3	General population	Phase 1: breads, fruits and vegetables; salad vegetables; milk and dairy products; meats/egg; cereals, nuts and	None for this age group.	Have meals in family, with TV off. No pressure on the child to eat.	Phase 1: 1- Breast milk is best. 2- If you are not breastfeeding, use an infant formula until the baby is 12 months old. 3- Give babies and toddlers plenty to drink. 4- Start solid food around 6

21]				<p>seeds.</p> <p>Phase 2: breads and cereals; fruits and vegetables; lean meats, chicken, seafood, eggs, legumes, nuts and seeds; milk and dairy products.</p> <p>Portion recommendations of food groups for each age groups.</p>			<p>months old.</p> <p>5- Change the variety, texture and quantity of food as your baby grows.</p> <p>6- Healthy eating habits start early.</p> <p>7- Once your baby starts solids try to have some meals together as a family.</p> <p>Phase 2:</p> <p>1- Make mealtimes fun.</p> <p>2- Have meals together as a family and turn off the TV and cell phones.</p> <p>3- Have meals at times that suit children.</p> <p>4- Provide three healthy meals every day, including breakfast.</p> <p>5- Provide a wide variety of healthy foods for children to choose from.</p> <p>6- Encourage your child to choose healthy foods, such as fruit and vegetables.</p> <p>7- Encourage children to try new foods.</p> <p>8- Involve children from an early age to prepare foods and let them do more as they get older.</p> <p>9- Make children's serving</p>
-----	--	--	--	---	--	--	---

							<p>sizes smaller than an adult's.</p> <p>10- Encourage family members to stop eating when they feel full.</p> <p>11- Offer healthy snacks between meals.</p> <p>12- Keep takeaways for occasional meals only.</p> <p>13- Limit fruit juice and dried fruit.</p> <p>14- Don't use rewards or force or push a child to eat.</p> <p>15- Don't encourage continuous eating or grazing.</p> <p>Phase 3:</p> <p>1- to grow and be healthy, you need to be active, eat the right foods and get enough sleep.</p> <p>2- Make healthy food choices; eat many different foods;</p> <p>3- Always take time to eat a healthy breakfast; 4- Keep some fruit and a bottle of tap water in your bag in case you get hungry or thirsty,</p> <p>5- Have plenty to drink,</p> <p>6- Sit less, Move more, Sleep well.</p>
Philippines (English,	3-12 yo; 13-18 yo	2 and 3	General population	Rice and alternatives, fish	Plate	Not presented.	Not organized in guidelines

2016) [22, 23]				and alternatives, vegetables, fruits. Portion recommendations of food groups for each age group.			
Bolivia (Spanish, 2013) [24, 25]	6-7 yo; 8-10 yo; 11-18 yo	2 and 3	Health Professionals	School-age children: cereals, tuber and legumes; vegetables; fruits; milk and dairy products; fats; sugar and sweetened products. Adolescents: milk and dairy products; cereals; legumes; tuber and roots; vegetables; fruits; oils and fats; sugar. Portion recommendations of food groups for each age groups.	“Food Arch”	Not presented.	1- Varied diet with all food groups, increasing intake of fruits and vegetables. 2- Increase milk and dairy products intake. 3- Consume sources of Iron (meats) at least 3 times a week. 4- Choose vegetal oils. 5- Use iodized salt but with moderation 6- Ingest 6-8 glasses of water a day. 7- Avoid exaggerated consumption of sugar, sweets and alcohol. 8- Reduce coffee and tea intake and consume milk and fruit juice. 9- 30 minutes of physical activities a day. 10- Wash your hands before mealtime.
Brazil (Portuguese,	6-12 mo; 12-24 mo.	1	Health Professionals	Cereals; roots and tubers; vegetables;	None for this age	1- Eat with company	Not organized in guidelines.

2019) [26]			s	fruits; nuts and seeds; milk and cheese; meats and egg; water + Nova classification: In Natura; Processed food; Ultraprocessed food. No portion recommendations of food groups.	group.	2- Turn off the TV at mealtimes 3- Offer an calm environment for child to eat 3- No pressure on child for eating 4- No offering treats associated to meals	
Chile (Spanish, 2018) [27, 28, 29, 30]	2-5 yo; 6-10 yo.	2	Health Professionals	Milk and dairy; vegetables; fruits; chicken and meat; legumes; eggs; cereals, pasta or potatoes; breads; oils and fats. Portion recommendations of food groups for each age group.	None for this age group.	Not presented.	Phase 2: 1- Make eating fruits and vegetables a habit for your child; 2- Pay attention to label and nutritional facts of the foods and choose the ones that contains less fats, sugar and salt; 3- Encourage your child being active; 4- Reduce screen time to less than 2 hours a day; 5- Make sure the children gets 8 hours of sleep.
Colombia (Spanish,	0-2 yo; 2-5 yo.	1 and 2	Teachers, first-level	Cereals, tubers, roots; fruits and	Plate	No screen use during mealtimes.	Not organized in guidelines.

2018 - phase 1; 2019 - phase 2) [31, 32]			health personnel, agricultural extension workers, officials of government entities, NGOs, journalists.	vegetables; milk and dairy products; meat, eggs, legumes and dried fruits; fats; sugar. No portion recommendations of food groups.			
Cuba (Spanish, 2009) [33, 34]	0-2 yo	1	Health Professionals	Cereals; vegetables; fruits; meats, chicken, fish, eggs and beans; milk, yogurt and cheese; fats; sugar. No portion recommendations of food groups.	None for this age group.	“Don’t force your child to eat, be patient and offer a calm and no distraction environment.”	<ol style="list-style-type: none"> 1- Exclusive breastfeeding until the baby is 6 months-old. 2- Breastfeeding is an act of love. 3- At 6 months-old, introduce complementary feeding. 4- Offer natural foods, without added sugar or salt 5- After 6 months-old, offer meat and chicken to children frequently. After 8 months-old, offer fish and seafood. 6- After 1 year-old, babies can eat the family food. 7- Be careful with preparing foods, be hygienic. 8- Don’t force your child to eat, be patient and offer a calm and no distraction environment.
Dominican	0-6 mo; 6-23	1	Health	Cereals; legumes;	None for	1- Eat with	Phase 1:

Republic (Spanish, 2009) [35, 36]	mo.		Professionals	fruits; vegetables; food from animal sources; fats; sugar; salt. No portion recommendations of food groups.	this age group.	company 2- Turn off the TV at mealtimes 3- Offer an calm environment for child to eat	1- Keep breastfeeding up to 2 years or more; 2- Encourage children to complementary feeding; 3- Be hygienic when manipulating or preparing food; 4- Increase the offer of food as the child grows but keep breastfeeding; 5- Evolve the amount and consistency of foods as the child grows; 6- Increase frequency of meals as the child grows; 7-Natural foods are healthier; 8- Offer natural foods without adding salt or sugar; 9- Use natural spices 10- Combine legumes with cereals, cook them until the grains are soft and the broth is dense; 11- Teach your children to brush their teeth after mealtime.
Guatemala (Spanish, 2003) [37]	0-1 yo.	1	Health Professionals	No food groups division and no portion recommendations.	None for this age group.	Not presented.	Not organized in guidelines.
Jamaica (English, 2015) [38,	Adolescents, no age specification	3	Adolescents	Fruits; fats and oils; food from animals; legumes	None for this age group.	Not presented.	Not organized in guidelines.

39]	.			and nuts; staples; vegetables. No portion recommendations of food groups.			
Panama (Spanish, 2018) [40, 41]	No age specification	1	Parents and Health professionals	No food groups division and no portion recommendations.	None for this age group.	Not presented.	<ul style="list-style-type: none"> 1- Exclusive breastfeeding in the first 6 months of life. 2- Offer a variety of foods from 6 months-old. 3- Prepare foods without salt or sugar. 4- 1 year-old must eat all healthy foods along with family. 5- Offer the child meat, chicken, eggs, fish and seafood. 6- Feed your child frequently, encourage him to eat without pressure. 7- Washing hands and manipulating foods hygienically can keep your child healthy. 8- Play with your child everyday.
Paraguay (Spanish, 2015) [42, 43]	0-6 mo; 6-24 mo	1	Health professionals and policy makers.	Fruits; milk and dairy products; sugar and honey; oils and fats; meats; legumes;	None for this age group.	<ul style="list-style-type: none"> 1- Turn off the TV at mealtimes 2- Offer an calm and clean environment for 	<ul style="list-style-type: none"> 1- Exclusive breastfeeding up to 6 months-old. 2- Initiate complementary feeding at 6 months-old, with smashed foods.

				eggs; vegetables; cereals and tubers. Portion recommendations of food groups for each age group.		child to eat	3- At 1 year-old, the child must eat family food. 4- Encourage children to eat fruits and vegetables. 5- Feed your child in a clean and calm environment, be patient and caring. 6- Consuming soda, sweetened beverages and sweets can lead to tooth decay and obesity. 7- Food and hand hygiene helps your child to keep healthy. 8- In case of diarrhea, keep feeding your child to prevent weight loss.
Belgium (French, 2020) [44, 45, 46]	0-3 yo 6-12 mo 12-18 yo	1, 2 and 3	Pregnant Women and parents of children 0-3 yo. Teenagers.	7 food groups based on nutrients, with portion recommendations for 0-3 yo.	Food Pyramid	Family meals.	Infants: 1- Orientation for children without appetite; 2- Family meals. 3- Offer 4 meals: breakfast, lunch, snack and dinner. For breakfast, offer bread, fruit, milk or dairy and a beverage (juice without added sugar, milk or water), and for a snack, a dairy product, a beverage of choice, a cereal and a fruit. Phase 1: 1- Breastfeeding and child formula orientation. Phase 3:

							<ul style="list-style-type: none"> 1- Consume tubers and cereals for energy; 2- Tips for healthy eating at school, restaurants and at home; 3- Increase water intake; 4- Girls must pay attention to Iron intake and both boys and girls must consume calcium, vitamin D and protein; 5- Alcohol in adolescence is not recommended; 6- Eat healthy leads to a healthier skin.
Switzerland (French, 2017/2018) [47, 48, 49]	0-3 yo	1 and 2	Parents of children 0-3 yo.	Beverage; fruits and vegetables; cereals, tubers and legumes; milk and dairy products; meat, fish, eggs and tofu; fat and nuts; snacks; sweets. No portion recommendations of food groups.	Pie chart	<ul style="list-style-type: none"> 1- Eat with company 2- No pressure on child for eating 3- No offering treats associated to meals 4- Mindful eating, no screen at mealtimes. 	<ul style="list-style-type: none"> 1- Breastfeeding and child formula orientation, complementary feeding as well. 2- Avoid beverages with caffeine. 3- Excess of sugar can lead to tooth decay. 4- Information on supplements and allergies. 5- Orientation for children without appetite. 6- Pay attention to nutritional facts and labels of the products offered to children 2-3 years-old. 7- Add vegetables in meals, such as meats, rice to increase nutrients.

Áustria (German, 2020) [50, 51, 52, 53, 54, 55]	0-1 yo; 1-3 yo; 4-10 yo.	1, 2 and 3.	Parents.	No food groups division and no portion recommendations.	Food Pyramid	1- Eat with company 2- Turn off the TV at mealtimes 3- Offer an calm environment for child to eat 4- No pressure on child for eating 5- No offering treats associated to meals	Not organized in guidelines.
---	-----------------------------	-------------	----------	--	-----------------	--	------------------------------

*years old/months old

** phase 1: infants and children until 24 months-old ; phase 2: preschoolers and school-age children (25 months-old up to 9 years-old); phase 3: adolescents (10 to 19 years-old)

Recommendations for mealtimes

There were found 21 out of the 57 countries which included guidance for eating habits in mealtimes, such as eating with the family, without using cellphones or television, in a calm environment, as shown in Tables 2 and 3 [16, 20, 26, 31, 33, 36, 42, 44, 49, 52, 58-60, 63, 67, 72, 88, 93, 95, 96]. From these 21 countries, 33% were in Latin America and the Caribbean, 29% in Europe, 19% in Asia and the Pacific and 19% in Africa; none were in North America and in the Near East. Forty three percent of those FBDG were published after 2015, 24% in between 2011-2015 and 33% before 2011. There were 23 FBDG which included guidance for eating habits in mealtimes for children and/or adolescents, most of them (57%) [16-18, 20, 26, 31, 33, 36, 42, 44, 48, 49, 52] were specific FBDG for the studied group (Table 3).

Fruit and vegetables guidelines

From the 27 countries in table 2 and 3 whose national FBDG had dietary guidelines aimed at children and adolescents, 7 has an exclusive guideline for fruit and/or vegetable consumption [24, 25, 27, 28, 29, 48, 58, 63, 88]. Also, 31 countries out of the 57 analysed in this study bring some guidance about fruit consumption on the FBDG [16, 18-21, 24, 25, 27, 28-30, 34, 47, 48, 55-58, 60, 62-65, 67, 69, 72, 73, 75, 78, 85, 88, 89, 94, 98, 103] and 25 encourage or guide vegetables consumption for the studied group [16, 19, 21-30, 34, 47, 56-58, 60, 62-64, 67, 69, 72, 73, 75, 88, 89, 94, 98].

Those countries that have an exclusive guideline for fruit and/or vegetables are 57% in Latin America and the Caribbean, 29% in Africa, 14% in Europe and none in North America, Asia and the Pacific and the Near East. About those that bring any guidance on fruit consumption, they are most in Asia and the Pacific (29%) and South America and the Caribbean (29%). Countries with any guidance on vegetable consumption in their FBDG were mostly located in Asia and the Pacific (32%) and South America and the Caribbean (24%).

Most of those FBDG that contain this information in the form of a guideline (57%) were published between 2011-2015, the rest of them (43%) were published after 2015 [24, 25, 27, 28, 29, 48, 58, 63, 88]. Regarding the guides that provided guidance on fruit consumption, 48% of them were published after 2015 and 36% between 2011-2015, 16% were published before 2015 and none before 2001. About those that bring vegetable consumption guidance, most were published after 2015 (48%), followed by those published between 2011-2015 (30%) and 22% before 2015, none were published before 2001.

NOVA classification

Five (9%) out of the 57 countries showed the NOVA food classification system to gather the foods in groups in the FBDG, according to the processing level [26, 82, 84, 85, 90, 92]. These countries are all from Latin America: Brazil, Ecuador, El Salvador, Peru and Uruguay. Also, it is noticed that most of the FBDG which presents the NOVA classification system have been published after 2015 (67%).

Hygiene guidelines

From the 27 countries in table 2 and 3 whose national FBDG has dietary guidelines aimed at children and adolescents, 10 (37%) of them have a guideline about hygiene for that age group [24, 25, 33, 36, 40, 42, 44, 59, 62, 63, 88]. Sixty percent were in Latin America and the Caribbean, 10% in Europe and 30% in Africa. Most of those FBDG were published between 2011-2015 (45%), followed equally by those published before 2011 and after 2015 (27% each); none were published before 2000.

Sugar and sweets

Among the 34 countries which FBDG includes sugar and sweets guidance for children and adolescents, 25 (73.5%) showed guidance to reduce or avoid its consumption [16-21, 26, 28, 37-40, 48, 51, 56, 58, 62, 63, 65, 68, 69, 72, 73, 78, 83, 94-96, 100, 103]. Those countries were in Europe or in Asia and the Pacific (28% each), Latin America and the Caribbean (24%), 12% in Africa and 4% both in North America and in the Near East. Almost half of them (45%) were published after 2015, 39% in between 2011-2015 and 16% before 2015, none were published before 2001.

Fats

Thirty three countries which FBDG analysed included fat and oils consumption guidance [16-21, 24-31, 33, 34, 36, 37, 42, 44, 48, 55, 56, 58, 60, 62-64, 69, 72, 73, 76, 77, 86, 88, 89, 93-96, 98-100, 103]: 10 (30%) provided guidance on the best sources [21, 26, 44, 48, 58, 60, 62, 94, 95, 103], 15 (45.5%) highlighted the limit of fat consumption [16, 18, 20, 21, 48, 55, 58, 62, 63, 67, 73, 78, 83, 86, 96, 100, 103] and 6 (18.2%) guided good sources and limit the consumption of oils and fats [21, 48, 55, 58, 62, 103]. Concerning these 33 countries, the respective FGDBs with this topic were mostly published after 2015 (41%) and between 2011-2015 (34%) and 25% were published before 2015, none were published before

2001. Of those countries which provide FBDG information on sources of fats and oils, 50% are in Europe, 30% in Africa, 10% in North America and 10% in Asia and the Pacific; none in the Near East and Latin America and the Caribbean. About those which brought about limiting the amount of fat consumption, most of them were in Europe or in Asia and the Pacific (26.7% each), 20% in Africa, 13.2% in Latin America and the Caribbean, and the rest in North America or in the Near East (6.7% each). Countries which have orientations on both topics were mostly in Europe or in Africa (33.3% each), in North America or in Asia and the Pacific (16.7% each); none in the Near East and Latin America and the Caribbean.

Water

Of the 57 countries, 30 (52.6%) contained information intended to encourage or guide drinking water [16-30, 33, 38-40, 42, 44, 46, 48, 50, 51, 55-59, 62, 63, 68, 72, 85, 86, 88, 89, 93-96, 98, 103]: 36.6% in Latin America and the Caribbean, 26.7% in Europe, 16.7% both in Africa or in Asia and the Pacific and 3.3% in North America; none in the Near East. Most of them were published after 2015 (48%) and between 2011-2015 (39%), 13% have been published before 2015 and none before the year 2000.

Sodium

Among the 22 countries that the FBDG provides guidance on sodium consumption for the age group studied, 19 focuses on limiting its consumption [16-21, 24-26, 32, 40, 44, 55, 56, 58, 62, 63, 69, 72, 73, 82, 93, 95, 102, 103]. Of these, 26% in Latin America and the Caribbean, 26% in Asia and the Pacific, 21% in Europe, 16% in Africa and none in the Near East and 11% in North America. The majority of them (52%) were published after 2015, 40% in between 2011-2015 and only 8% before 2011.

Exclusive breastfeeding and continued breastfeeding

It was found that 38 countries had an exclusive breastfeeding until 6 months old guidance in their FBDGs [17-19, 26, 30, 32, 33, 35, 37, 40-42, 44, 48, 50, 51, 56, 58, 60-72, 76, 78, 79, 87, 88, 93-96, 99, 103]: 31% were in Latin America and the Caribbean, 29% in Asia and the Pacific, 21% in Europe, 13% in Africa, 5% in the Near East and 2% in North America. Some countries approach the topic in a more developed way and others in a more punctual way. Most of those FBDG which approach exclusive breastfeeding until 6 months old were published after 2015 (43%), then between 2011 and 2015 (33%) and before 2011 (24%); none was published before 2003.

Twenty two countries have also continued breastfeeding orientation in their FBDG [17, 18, 26, 32, 33, 35-37, 40-42, 50-52, 56, 60, 62, 66, 70, 72, 76, 78, 88, 93-96]: 41% in Latin America and the Caribbean, 23% in Europe, 18% in Asia and the Pacific and the rest in Africa or in the Near East (9% each); none in North America. Most of them (37%) have been published after 2015, 33% before 2011, and 30% in between.

Healthy complementary eating

Thirty four countries had FBDG that addressed guidance on healthy complementary eating [17-19, 26, 30, 32, 33, 36, 37, 40, 42, 44, 47, 50-52, 56, 58, 60, 62-65, 67, 69, 70, 72, 76, 78, 85, 87, 88, 93-96, 98, 103]: 35% in Latin America and the Caribbean, 23% in Europe, 21% in Asia and the Pacific, 12% in Africa, 6% in the Near East and 3% in North America, most of those FBDG were published after 2015 (43%) and between 2011-2015 (32%), also 25% have been published before 2015 and none before 2003.

Discussion

This article intends to fill a gap about the main characteristics of the current general and specific FBDGs around the world that bring guidance aimed at children and adolescents. A previous study [8] identified 17 specific FBDG for children and adolescents around the world, so the growing elaboration of this type of material can be seen, given that the present study identified 40 FBDG aimed specifically at this age group. This can be explained by the relevance that the food habits in childhood and adolescence have in dietary patterns through adulthood and in the child's development [1, 2].

It can also be noticed that the regions that had the highest growth of countries with specific FBDG since 2011 [8] were Latin America and the Caribbean, with ten new specific FBDGs since 2011 [24-43]. That growth is in line with the context of nutritional transition in which Latin America and the Caribbean countries are inserted. In this way, the focus of nutrition policies shifts from an undernourished population to a developing country with an overweight and obese population [104, 105].

Even though there was an increase in the number of specific FBDGs aimed at children and adolescents around the world, it is not yet widespread in many countries, which is explicit in this study as most of the documents found were aimed at the general population. This shows a limitation to adapt the contents of the guidelines in order to make them

understandable and motivational to the target population [106]. Also, specific documents are important as each life stage has its singularities such as nutritional needs and interests [107].

When analyzing the results obtained by the study, it is possible to notice the great differences in the way of presenting nutritional guidance for the studied group, both in specific and general FBDGs. This information can be exposed in the documents through nutritional guidelines, icons, didactic design, food groups, and others. Those differences can be explained by cultural singularities of each region, prevalence of nutritional inadequacies and food culture, e.g. China's food icon being an abacus [67, 108].

The food icons or graphic representations are a tool for nutritional education, once they can represent quantities and even frequency of consumption recommended for each food group in a succinct way [109]. There are some differences between the shapes of food icons found. There is often a relation between the countries' cultures and shapes chosen, as it seems to evoke the cultural food choices and some cultural food elements suggest cooking, besides the proportion between food groups [110]. It's important to remember the relevance of culture in food choices, since food practices such as cooking and having meals can be part of an identity [111].

However, literature has suggested limitations when it comes to FBDGs' graphic representations, such as Food Pyramids and Plates, due the attempt to summarize all choices consumers need to make in order to maintain healthy eating habits [112]. Another important aspect is that the interpretation of such elements can demand subjective comprehension and the possible struggle of the population on comprehending abstract concepts [113].

About food groups, most of the specific FBDG presented a meat/animal source protein. When it comes to recommendations, developing countries with high undernutrition prevalence recommend red meat consumption in order to prevent anemia, especially among younger groups [9], such as Guatemala's FBDG [37]. Others recommend to altern between protein sources, which is an important recommendation and seem to be related with environment sustainability concerns, as Panama's document [40], Brazil's [26], China's [67], Belgium's [45, 46] and Australia's materials [16, 18], which the recommendations were to consume other protein sources, such as lean meats and poultry, besides vegetable protein sources as legumes and nuts.

Eating in the company of the family has proved to have a protective effect for obesity in children and adolescents, besides supporting healthy eating habits. This practice elevates the consumption of fruits and vegetables, and several micronutrients' intake. It also decreases the risk for overweight and obesity in adolescents [114]. Therefore, it is valuable that the

FBDG present recommendations to endorse family meals as recommendations for mealtimes, both general and specific FBDG [16-21, 26, 35, 36, 44-55, 58, 63, 88, 93, 94].

Asia and the Pacific are the regions with most countries with FBDG that brought guidance on fruit (29%) [16, 18-21, 64, 65, 69, 72, 73] and vegetable (32%) [16, 19, 21-23, 64, 67, 69, 72, 73] consumption, which might demonstrate concern with population's eating habits such as the growing rates of ultra processed food consumption [115].

It is observed that Latin America is in a food transition, characterized by lower consumption of fruits and vegetables and with a high or growing participation of ultra processed products in diet [104]. This can justify why most countries with a specific guideline for fruit and/or vegetable consumption were in Latin America and the Caribbean [24, 25, 27, 28, 29, 88]. It is also related to the nutritional transition presented in these countries, in which there are growing rates of overweight, obesity and chronic diseases associated with weight gain [104]. All of these FBDGs have been published after 2011, being 43% after 2015, which is related to the fact that both food and nutritional transitions in Latin America are still considered recent processes.

All FBDG which brings the NOVA food classification system were from Latin America's countries [38, 39, 52, 53, 66, 68], which can be explained by the development of this tool being made in Brazil. In consequence of the nutritional changes on food production and distribution systems and eating habits. Also, it's known that FBDG are used as tools to prevent chronic diseases, mainly overweight and obesity. In this case, knowledge about the processment level of food is needed in order to design effective nutritional guidance [104].

In developing countries, it can be noticed that food-related illness such as diarrhea has an expressive role on children mortality rates [116]. Also, a study showed that there is a substantial correlation between the Human Development Index (HDI) of a country and diarrhea-associated deaths among children [117]. Thus, developing countries with lower HDI, such those in Latin America [24, 25, 33, 36, 40, 42, 88] and Africa [59, 62, 63], represent almost all the countries with a hygiene guideline in the FBDG, to guide the population and prevent those diseases. Also, this explains the lack of a hygiene guideline in FBDGs in regions with developed countries with higher HDI, such as those from North America and Europe.

By 1999, the United States Department of Agriculture (USDA) determined a limitation in the consumption of fats for children, which might explain no FBDG with such guidance before 2001. Also, there is an evident limitation of the FBDGs in relation to the consumption guidelines for the groups of fats and sugars, as this often occurs through

recommendations of "moderate use" or "minimum quantity", which can lead to different interpretations of the amount that should or can be consumed [106].

Guidance on sodium consumption is recent, which can be noticed as most of FBDG analysed with this orientation have been published after 2015 [20, 21, 26, 32, 40, 44, 55, 56, 58, 62, 95, 102, 103]. This characteristic can be associated with the greater accumulation of scientific evidence about the harmful effects of excessive sodium consumption and about the increasing salt or sodium consumption data among the studied age group [108]. The guidance on sodium consumption for children and adolescents is necessary because of the growing pace of pathogenic processes of chronic diseases in these stages of life [118]. Research demonstrates that 80% of Brazilian adolescents consume above the Upper Level of sodium and almost 10% of them have hypertension [108]. Sodium consumption has an impact not only in the economic sphere, in relation to diseases associated with excessive consumption, but it is also related to premature death [119].

Exclusive breastfeeding guidance is most present in FBDG of developing countries with a high prevalence of nutritional deficiencies and malnutrition, such as those in Latin America and The Caribbean [26, 30, 32, 33, 35, 37, 40-42, 79, 87, 88, 93, 120]. On the other hand, it is also a very common orientation in FBDGs of developed countries, such as those in North America and Europe [44, 48, 50, 51, 94-96, 99, 103]. This fact is aligned with the numerous benefits [121] that are addressed to exclusive breastfeeding, regardless of the child's socioeconomic status.

The study has some limitations regarding the translation of some documents, which were left out such as those in Russian, Khemer and Hebrew. Also, there might be FBDG not mentioned in the FAO, so a systematic review was carried out to maximize the possibility of identifying them. It is also important to emphasize that due to the diversity of aspects that can be addressed in the FGDBs, some recommendations may not have been addressed due to the difficulty of comparing the materials.

Conclusion

The FBDGs are valid instruments when designing nutritional policies and interventions. Besides, these materials are a tool of nutritional education, by facilitating the learning and adaptation of healthy eating habits for the target audience while considering the singularities of each population and their culture. It's necessary to highlight the importance of nutrition educational actions for children and adolescents since it's a phase of food habit building, in order to prevent the growing prevalence of chronic diseases.

The present study summarized different countries' official recommendations for children and adolescents, in order to compare and to acknowledge the available content in this field. It was possible to notice the materials' diversity, due to both nutritional and political aspects of each region. In this context, Latin America stands out for its orientations for the studied group. The relevance to understanding the tendencies around the world is to be aware of possible gaps, without putting aside the specificities of each population. This review did not aim to measure the possible impacts and comprehension of FBDGs, nor other subjective evaluations of the materials, which can be explored by further studies.

References:

- [1] Totland TH, Gebremariam MK, Lien N, Bjelland M, Grydeland M, Bergh IH, *et al.* (2013) Does tracking of dietary behaviours differ by parental education in children during the transition into adolescence? *Public Health Nutr.* **16**, 673–82.
- [2] Movassagh, E. Z., Baxter-Jones, A. D., Kontulainen, S., Whiting, S. J., & Vatanparast, H. (2017) Tracking dietary patterns over 20 years from childhood through adolescence into young adulthood: the Saskatchewan Pediatric Bone Mineral Accrual Study. *Nutrients*, **9** (9), 990.
- [3] Costa, G. G., Dias, L. G., Borghetti, C. B., & Fortes, R. C. (2013) Efeitos da educação nutricional em pré-escolares: uma revisão de literatura. *Com Ciências Saúde*, **24**(2), 155-68.
- [4] Serdula MK, Ivery D, Coates RJ, Freedman DS, Williamson DF, Byers T. (1993) Do obese children become obese adults? A review of the literature. *Prev Med*, **22** (2) :167-77. doi: 10.1006/pmed.1993.1014. PMID: 8483856.
- [5] WHO (World Health Organization). CAHRU (Child and Adolescent Health Research Unit). (2017) Adolescent obesity and related behaviours: trends and inequalities in the WHO European Region, 2002–2014. WHO Regional Office for Europe: Copenhagen, Denmark. . 87 p.
- [6] WHO (World Health Organization). FAO (Food and Agriculture Organization of the United Nations). (2006) FAO/WHO Technical Consultation on National Food- Based Dietary Guidelines: Cairo, Egypt. 6-9 December, 2004. 80 p.
- [7] European Food Safety Authority. (2010) Scientific opinion on establishing food-based dietary guidelines. *EFSA J.*, **8** (3), 1460.
- [8] Horta, P. M., Pascoal, M. N., & Santos, L. C. D. (2011) Updating dietary guides for children and adolescents: a review. *Revista Brasileira de Saúde Materno Infantil*, **11**(2), 115-124.
- [9] Herforth, A., Arimond, M., Álvarez-Sánchez, C., Coates, J., Christianson, K., & Muehlhoff, E. (2019) A global review of food-based dietary guidelines. *Advances in Nutrition*, **10** (4), 590-605.

- [10] Erve, I., Tulen, C. B. M., Jansen, J., Minnema, R., Schenk, P. R., Wolvers, D., ... & Verhagen, H. (2017) Overview of elements within national food-based dietary guidelines. *European Journal of Nutrition & Food Safety*, 1-56.
- [11] Munn, Z., Peters, M.D.J., Stern, C. *et al.* (2018) Systematic review or scoping review? Guidance for authors when choosing between a systematic or scoping review approach. *BMC Med Res Methodol* **18**, 143 . <https://doi.org/10.1186/s12874-018-0611-x>.
- [12] Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, *et al.* (2018) PRISMA Extension for Scoping Reviews (PRISMA ScR): Checklist and Explanation. *Ann Intern Med.* **169**, 467–473. doi: 10.7326/M18-0850.
- [13] Rezende, J. L. C., de Medeiros, M. C., Rhaisa, G., Santos, L. C. d., & Toral, N. (2021, March 24) Food Based Dietary Guidelines for children and adolescents: a scoping review. <https://doi.org/10.17605/OSF.IO/J5Z6R>.
- [14] FAO (Food and Agriculture Organization of the United Nations). Food-based dietary guidelines. <http://www.fao.org/nutrition/education/food-based-dietary-guidelines> (accessed February 2020).
- [15] Ouzzani M, Hammady H, Fedorowicz Z, and Elmagarmid A. Rayyan — a web and mobile app for systematic reviews. *Systematic Reviews* (2016) 5:210, DOI: 10.1186/s13643-016-0384-4.
- [16] National Health and Medical Research Council. (2013) *Healthy eating for children: teach your child healthy habits for a healthy life*. Australia: Department of Health and Ageing, National Health and Medical Research Council, Government of Australia.
- [17] National Health and Medical Research Council. (2013) *Giving your baby the best start: the best foods for infants*. Australia: Department of Health and Ageing, National Health and Medical Research Council, Government of Australia.
- [18] National Health and Medical Research Council. (2013) *Infant Feeding guidelines*. Australia: Department of Health and Ageing, National Health and Medical Research Council, Government of Australia.
- [19] Ministry of Health. (2013) *Eating for Healthy: Babies and Toddlers*. New Zealand: Ministry of Health, New Zealand Government.
- [20] Ministry of Health. (2017) *Eating for Healthy: Children*. New Zealand: Ministry of Health, New Zealand Government.
- [21] Ministry of Health. (2017) *Healthy eating for young people*. New Zealand: Ministry of Health, New Zealand Government.
- [22] Food and Nutrition Research Institute. (2016) *Pinggang Pinoy: healthy food plate for Filipinos - Kids*. Taguig City, Philippines: Department of Science and Technology, Republic of the Philippines.
- [23] Food and Nutrition Research Institute. (2016) *Pinggang Pinoy: healthy food plate for Filipinos - Teens*. Taguig City, Philippines: Department of Science and Technology, Republic of the Philippines.

[24] Ministerio de Salud y Deportes. (2013) *Guía Alimentaria para el Niño y la Niña en edad escolar* (Food-based Dietary Guidelines for School-age Children). La Paz, Bolivia: Dirección General de Promoción de la Salud, Unidad de Alimentación y Nutrición, Ministerio de Salud y Deportes. In Spanish.

[25] Ministerio de Salud y Deportes. (2013) *Guía Alimentaria para las y los adolescentes* (Food-based Dietary Guidelines for Teenagers). La Paz, Bolivia: Dirección General de Promoción de la Salud, Unidad de Alimentación y Nutrición, Ministerio de Salud y Deportes. In Spanish.

[26] Ministério da Saúde. (2019) *Guia alimentar para crianças menores de dois anos* (Food-based Dietary Guidelines for children under two years-old). Brasília, Brasil: Secretaria de Atenção Primária à Saúde, Departamento de Atenção à Saúde, Ministério da Saúde. In Portuguese.

[27] Universidad de Chile. (2016) *Guía de alimentación del preescolar* (Food-based dietary guidelines for preschoolers). Chile: Instituto de Nutrición y Tecnología de los Alimentos (INTA), Universidad de Chile. In Spanish.

[28] Universidad de Chile. (2016) *Guía de alimentación del escolar* (Food-based dietary guidelines for school-age children). Chile: Instituto de Nutrición y Tecnología de los Alimentos (INTA), Universidad de Chile. In Spanish.

[29] Universidad de Chile. (2016) *Guía de alimentación del adolescente* (Food-based dietary guidelines for teenagers). Chile: Instituto de Nutrición y Tecnología de los Alimentos (INTA), Universidad de Chile. In Spanish.

[30] Ministerio de Salud. (2016) *Guía de Alimentación del niño (a) menor de 2 años/Guía de Alimentación hasta la adolescencia* (Food-based dietary guidelines for children under 2 years-old/Food-based dietary guidelines until adolescence). Chile: Departamento de Nutrición y Alimentos, Ministerio de Salud. In Spanish.

[31] Instituto Colombiano de Bienestar Familiar, Food and Agriculture Organization (FAO). (2019) *Mi plato, un arcoíris divertido de sabores* (My plate, a fun rainbow of flavors). Colombia: Instituto Colombiano de Bienestar Familiar, Gobierno de Colombia. In Spanish.

[32] Instituto Colombiano de Bienestar Familiar, Food and Agriculture Organization (FAO). (2018) *Guías Alimentarias basadas en alimentos para mujeres gestantes, madres en período de lactancia y niños y niñas menores de 2 años de Colombia* (Food-based dietary guidelines for pregnant women, lactating women and children under 2 years-old from Colombia). Colombia: Instituto Colombiano de Bienestar Familiar, Gobierno de Colombia. In Spanish.

[33] Instituto de Nutrición e Higiene de los alimentos, Ministerio de Salud Pública. (2009) *Guías Alimentarias para niños y niñas cubanos hasta 2 años de edad - Documento técnico para los equipos de salud* (Food-based Dietary Guidelines for Cuban children under 2 years-old). Ciudad de La Habana, Cuba: Instituto de Nutrición e Higiene de los alimentos, Dirección Nacional Materno Infantil, Ministerio de Salud Pública. In Spanish.

[34] Ministerio de Salud Pública. (2009) *Guías Alimentarias para la población cubana mayor de 2 años de edad* (Food-based Dietary Guidelines for Cubans over 2 years-old).

Ciudad de La Habana, Cuba: Instituto de Nutrición e Higiene de los alimentos, Ministerio de Salud Publica. In Spanish.

[35] Ministerio de Salud Publica. (2009) *Guía Alimentaria de la Lactancia Materna - Lineamientos Técnicos* (Food-based dietary guidelines for Breastfeeding - Technical Guidelines). Dominican Republic: Dirección de Nutrición, Ministerio de Salud Publica. In Spanish.

[36] Ministerio de Salud Publica. (2009) *Guía Alimentaria de la Alimentación Complementaria - Lineamientos Técnicos* (Food-based dietary guidelines for Complementary feeding - Technical Guidelines). Dominican Republic: Dirección de Nutrición, Ministerio de Salud Publica. In Spanish.

[37] Ministerio de Salud Pública y Asistencia Social. (2003) *Guías Alimentarias para la Población Guatemalteca menor de 2 años* (Food-based Dietary Guidelines for Guatemalan Population under 2 years-old). Ciudad de Guatemala, Guatemala: Ministerio de Salud Pública y Asistencia Social. In Spanish.

[38] Ministry of Health. (2015) *Eating Healthy makes sense - tips for teen girls*. Jamaica: Ministry of Health.

[39] Ministry of Health. (2015) *Eating Healthy makes sense - tips for teen boys*. Jamaica: Ministry of Health.

[40] Ministerio de Salud de Panamá. (2018) *Guías Alimentarias para los menores de 2 años de Panamá* (Food-based Dietary Guidelines for under 2 years-old from Panama). Ciudad de Panamá, Panamá: Ministerio de Salud de Panamá. In Spanish.

[41] Ministerio de Salud de Panamá. (2018) *Guías Alimentarias para los menores de 2 años de Panamá - Documento técnico* (Food-based Dietary Guidelines for under 2 years-old from Panama - Technical Document). Ciudad de Panamá, Panamá: Ministerio de Salud de Panamá. In Spanish.

[42] Instituto Nacional de Alimentación y Nutrición. (2015) *Guías Alimentarias para niños y niñas menores de 2 años del Paraguay* (Food-based dietary Guidelines of Paraguay for children under 2 years-old). Paraguay: Instituto Nacional de Alimentación y Nutrición, Ministerio de Salud y Bienestar Social. In Spanish.

[43] Instituto Nacional de Alimentación y Nutrición. *Recetas para niñas y niños a partir de los 6 meses* (Recipes for children from 6 months-old). Paraguay: Programa de Alimentario Nutricional Integral, Instituto Nacional de Alimentación y Nutrición, Ministerio de Salud y Bienestar Social. In Spanish.

[44] Ministre des Affaires Sociales. (2020) *Guide 1 - Vivement recommandé pour futures mamans et parents avec enfants de 0 à 3 ans* (Guide 1 - Highly recommended for future moms and parents of 0 to 3 years-old children). Bruxelles, Belgium: Plan National Nutrition Santé, Ministre des Affaires Sociales. In French.

[45] Ministre des Affaires Sociales. (2020) *Guide 2 - Vivement recommandé pour enfants de 3 à 12 ans et leur parents* (Guide 2 - Highly recommended for 3 to 12 years-old children and their parents). Bruxelles, Belgium: Plan National Nutrition Santé, Ministre des Affaires Sociales. In French.

[46] Ministre des Affaires Sociales. (2020) *Guide 3 - Coup de foudre vivement recommandé aux garçons et filles entre 12 et 18* (Guide 3 - Love at first sight highly recommended to boys and girls from 12 to 18 years-old). Bruxelles, Belgium: Plan National Nutrition Santé, Ministre des Affaires Sociales. In French.

[47] Federal Food Safety and Veterinary Oce. (2018) *Introducing foods to infants*. Switzerland: Federal Food Safety and Veterinary Oce, Swiss Society for Nutrition, Swiss Society of Paediatrics.

[48] Office fédéral de la sécurité alimentaire et des affaires vétérinaires. (2017) *Alimentation des nourrissons et des enfants en bas âge* (Feeding infants and young children). Berne, Switzerland: Office fédéral de la sécurité alimentaire et des affaires vétérinaires. In french.

[49] Société Suisse de Nutrition. Alimentation durant l'enfance avec le disque alimentaire suisse. <https://www.sge-ssn.ch/fr/toi-et-moi/boire-et-manger/aux-differents-ages/enfance/> (accessed September 2021). In French.

[50] Bundesministerium Soziales, Gesundheit, Pflege und Konsumentenschutz. (2020) *Richtig Essen von Anfang An! Babys erstes Löffelchen* (Eat well from the beginning! Babies' first spoon). Vienna, Austria: AGES - Österreichische Agentur für Gesundheit und Ernährungssi- cherheit GmbH, Zentrum Ernährung & Prävention. In German.

[51] Bundesministerium Soziales, Gesundheit, Pflege und Konsumentenschutz. (2020) *Richtig Essen von Anfang An! Poster Babys erstes Löffelchen* (Eat well from the beginning! Poster Babies' first spoon). Vienna, Austria: AGES - Österreichische Agentur für Gesundheit und Ernährungssi- cherheit GmbH, Zentrum Ernährung & Prävention. In German.

[52] Bundesministerium Soziales, Gesundheit, Pflege und Konsumentenschutz. (2020) *Richtig Essen von Anfang An! Infografik Die Ernährung des Säuglings im Ersten Lebensjahr* (Eat well from the beginning! Baby's first year nutrition). Vienna, Austria: AGES - Österreichische Agentur für Gesundheit und Ernährungssi- cherheit GmbH, Zentrum Ernährung & Prävention. In German.

[53] Bundesministerium Soziales, Gesundheit, Pflege und Konsumentenschutz. (2020) *Richtig Essen von Anfang An! Jetzt ess ich mit den Großen! Richtig essen für Ein- bis Dreijährige* (Eat well from the beginning! Now I'm eating with the big ones! - Healthy eating for 1 to 3 year-olds). Vienna, Austria: AGES - Österreichische Agentur für Gesundheit und Ernährungssi- cherheit GmbH, Zentrum Ernährung & Prävention. In German.

[54] Bundesministerium Soziales, Gesundheit, Pflege und Konsumentenschutz. *Ernährungspyramide für Kinder* (Food Pyramid for children). Vienna, Austria: AGES - Österreichische Agentur für Gesundheit und Ernährungssi- cherheit GmbH, Zentrum Ernährung & Prävention. In German.

[55] Bundesministerium Soziales, Gesundheit, Pflege und Konsumentenschutz. (2020) *Richtig Essen von Anfang An! So schmeckt's uns allen! Richtig essen für 4- bis 10-Jährige* (Eat well from the beginning! This is how it tastes for all of us! Healthy eating for 4 to 10 year-olds). Vienna, Austria: AGES - Österreichische Agentur für Gesundheit und Ernährungssi- cherheit GmbH, Zentrum Ernährung & Prävention. In German.

[56] Consiglio per la ricerca in agricoltura e l'analisi dell'economia agraria, CREA. Centro di Ricerca Alimenti e nutrizione. (2018) *Linee guida per una sana alimentazione* (Guidelines for healthy eating). Roma, Italia: Ministero delle politiche agricole, alimentari e forestali, Governo Italiano. In Italian.

[57] Conseil National de L'Alimentation et de la Nutrition, CAN. (2015) *Guide alimentaire du Benin* (Food Guide of Benin). Benin: République du Bénin. In French.

[58] Ministry of Health. (2017) *National Guidelines for Healthy Diets*. Nairobi, Kenya: Ministry of Health, Government of Kenya.

[59] National Food Security and Nutrition Council. (2000) *Food & Nutrition Guidelines for Namibia: Food choices for a healthy life*. Windhoek, Namibia: Ministry of Health and Social Services, Government of Namibia.

[60] Federal Ministry of health. (2006) *Food-based dietary guideline for Nigeria: a guide for healthy eating*. Abuja, Nigeria: Nutrition division, Federal Ministry of health, Government of Nigeria.

[61] Ministry of Health and Social Services. (2006) *The Seychelles Dietary Guidelines*. Seychelles: Nutrition Unit, Ministry of Health and Social Services, Government of Seychelles.

[62] Ministry of Agriculture, Forestry and Food Security, Ministry of Health and Sanitation and Ministry of Education, Science and Technology. (2016) *Sierra Leone Food Based Dietary Guideline for healthy eating*. Sierra Leone: Ministry of Agriculture, Forestry and Food Security, Ministry of Health and Sanitation and Ministry of Education, Science and Technology, Government of Sierra Leone.

[63] Department of Health. (2013) *Food-based Dietary Guidelines for South Africa*. South Africa: Department of Health, Republic of South Africa.

[64] Food and Agriculture Organization of the United Nations, Ministry Public of Health, Ministry of Agriculture, Irrigation and Livestock, Ministry of Education. (2016) *National Food-Based Dietary Guideline for Afghans*. Afghanistan: Ministry Public of Health, Ministry of Agriculture, Irrigation and Livestock, Ministry of Education, Government of Afghanistan. Kabul: the Food and Agriculture Organization of the United Nations (FAO); 2016.

[65] Bangladesh Institute of Research and Rehabilitation in Diabetes, Endocrine and Metabolic Disorders (BIRDEM). (2013) *Dietary Guidelines for Bangladesh*. National Food Policy Capacity Strengthening Programme, FAO.

[66] Bangladesh Institute of Research and Rehabilitation in Diabetes, Endocrine and Metabolic Disorders (BIRDEM). (2013) *Dietary Guidelines for Bangladesh (folder)*. National Food Policy Capacity Strengthening Programme, FAO.

[67] Chinese Nutrition Society. (2016) *Chinese Dietary Guidelines Summary*. Beijing, China: Chinese Nutrition Society.

[68] Ministry of Health. (2013) *Food and Health Guidelines for Fiji*. Suva, Fiji: National Food and Nutrition Centre, Ministry of Health.

- [69] National Institute of Nutrition. (2011) *Dietary Guidelines for Indians - a Manual*. Hyderabad, India: National Institute of Nutrition.
- [70] National Coordinating Comitee on Food and Nutrition. (2010) *Malaysian Dietary Guidelines*. Putrajaya, Malaysia: Nutrition Division, Ministry of Health Malaysia.
- [71] Food and Nutrition Research Institute. (2012) *Nutritional Guidelines for Filipinos: a prescription to good nutrition*. Taguig City, Philippines: Department of Science and Technology, Republic of the Philippines.
- [72] Nutrition division Ministry of Health. (2011) *Food Based Dietary Guidelines for Sri Lankans*. Sri Lankan: Nutrition division Ministry of Health.
- [73] Ministry of Public Health. (2001) *Manual Nutrition Flag, Healthy Eating for Thais*. Thailand: Nutrition Division, Department of Health, Ministry of Public Health.
- [74] American University of Beirut. (2013) *The Food-Based Dietary Guideline Manual for Promoting Healthy Eating in the Lebanese Adult Population*. Beirut, Lebanon: Faculty of Agricultural and Food Sciences, American University of Beirut.
- [75] Ministry of Health. (2009) *The Omani Guide to Healthy Eating*. Oman: Department of Nutrition, Ministry of Health.
- [76] Health Promotion and Non-communicable Diseases Section. (2015) *Qatar Dietary Guidelines*. Doha, Qatar: Health Promotion and Non-communicable Diseases Section, Public Health Department, The Supreme Council of Health.
- [77] Health Promotion and Non-communicable Diseases Section. (2015) *Qatar Dietary Guidelines Folder*. Doha, Qatar: Health Promotion and Non-communicable Diseases Section, Public Health Department, The Supreme Council of Health.
- [78] Ministry of Healthy. (2012) *Dietary Guidelines for Saudis - The Healthy Food Palm*. Saudi Arabia: General Directorate of Nutrition, Ministry of Health.
- [79] Ministry of Health. (2013) *Food-Based Dietary Guidelines*. St John's, Antigua: Ministry of Health, Antigua and Barbuda Government.
- [80] Ministerio de Salud. (2020) *Guías Alimentarias para la población argentina - Documento Técnico Metodológico* (Food-based Dietary Guidelines for Argentina 's population - Technical document). Argentina: Ministerio de Salud. In Spanish.
- [81] Ministry of Health. (2002) *The New Dietary Guidelines for Bahamas*. Bahamas: Ministry of Health.
- [82] Ministério da Saúde. (2014) *Guia Alimentar para a população Brasileira* (Food-based Dietary Guidelines for Brazilian Population). Brasília, Brasil: Secretaria de Atenção à Saúde, Departamento de Atenção à Saúde, Ministério da Saúde. In Portuguese.
- [83] Ministerio de Salud Publica. (2009) *Guías Alimentarias Basadas en Alimentos de la República Dominicana - Documento Técnico de Referencia* (Food-based dietary guidelines for Dominican Republic - Technical Document for reference). Dominican Republic: Dirección de Nutrición, Ministerio de Salud Publica. In Spanish.

- [84] Gobierno de la República del Ecuador, Food and Agriculture Organization. (2020) *Manual para facilitadores de las Guías Alimentarias Basadas en Alimentos (GABA) del Ecuador* (Manual for Facilitating agents of Food-based Dietary Guidelines for Ecuador). Quito, Ecuador: Ministerio de Salud Pública, Gobierno de la República del Ecuador. In Spanish.
- [85] Ministerio de Salud de El Salvador. (2012) *Guía Alimentaria para las familias salvadoreñas* (Food-based Dietary Guidelines for Salvadoran families). San Salvador, El Salvador: Unidad de Nutrición, Ministerio de salud de El Salvador. In Spanish.
- [86] Ministerio de Salud Pública y Asistencia Social. (2012) *Guías Alimentarias para Guatemala* (Food-based Dietary Guidelines for Guatemala). Ciudad de Guatemala, Guatemala: Ministerio de Salud Pública y Asistencia Social, Gobierno de Guatemala. In Spanish.
- [87] Ministry of Public Health. (2018) *Food-based Dietary Guidelines for Guyana*. Georgetown, Guyana: Food Policy Division, Ministry of Public Health.
- [88] Academia Nacional de Medicina. (2012-2014) *Guías alimentarias y de actividad física en contexto de sobrepeso y obesidad en la población mexicana* (Food-based Dietary and physical activities Guidelines about overweight and obesity in mexicans). México: Academia Nacional de Medicina. In Spanish.
- [89] Instituto Nacional de Alimentación y Nutrición. (2015) *Guías Alimentarias del Paraguay* (Food-based dietary Guidelines of Paraguay). Paraguay: Instituto Nacional de Alimentación y Nutrición, Ministerio de Salud y Bienestar Social. In Spanish.
- [90] Ministerio de Salud. (2019) *Guías Alimentarias para la población Peruana* (Food-based dietary Guidelines for Peruvians). Lima, Peru: Instituto Nacional de Salud, Ministerio de Salud. In Spanish.
- [91] Ministry of Health, Social Services, Community Development, Culture and Gender Affairs. (2010) *Food-based dietary Guidelines St. Kitts and Nevis*. St. Kitts and Nevis: Health Promotion Unit Ministry of Health, Social Services, Community Development, Culture and Gender Affairs.
- [92] Instituto Nacional de Alimentación y Nutrición. (2016) *Guías Alimentarias para la población Uruguaya* (Food-based dietary Guidelines for uruguayan population). Uruguay: Área Programática Nutrición, Dirección General de la Salud, Ministerio de Salud. In Spanish.
- [93] Instituto Nacional de Nutrición Fundación Cavendes. (2010) *Guías de Alimentación para Venezuela* (Food-based Dietary Guidelines for Venezuela). Caracas, Venezuela: Instituto Nacional de Nutrición Fundación Cavendes. In Spanish.
- [94] Ministry of Health. (2008) *Recommendations on Healthy Nutrition in Albania*. Tirana, Albania: Department of Public Health, Ministry of Health.
- [95] National Nutrition Council. (2019) *Eating together - food recommendations for families with children*. Helsinki, Finland: National Nutrition Council, Finnish National Agency for Education and National Institute for Health and Welfare.

- [96] Ministry of Labor, Health and Social Affairs. (2005) *Healthy Eating - the main key to health*. Georgia: Public Health Department, Ministry of Labor, Health and Social Affairs.
- [97] Ministério da Saúde. (2005) *Princípios para uma alimentação saudável* (Principles for Healthy Eating). Lisboa, Portugal: Direcção Geral da Saúde, Ministério da Saúde. In Portuguese.
- [98] Agencia Española de Seguridad Alimentaria y Nutrición. (2005) *Nutrición saludable de la infancia a la adolescencia: La Alimentación de tus niños* (Healthy Nutrition from childhood to adolescence: The feeding of your children). Spain: Ministerio de Sanidad y consumo, Gobierno de España. In Spanish.
- [99] Ministry of Health. (2006) *Dietary Guidelines for Turkey*. Ankara, Turkey: Food Safety Department Community Nutrition Division, General Directorate of Primary Health Care, Ministry of Health, Republic of Turkey.
- [100] Public Health England. (2016) *Government recommendations for energy and nutrients for males and females aged 1 – 18 years and 19+ years*. London, UK: Nutrition Science Team, Public Health England.
- [101] Department of Health. (2016) *The food Pyramid for adults, teenagers and children aged 5 and over*. Ireland: Healthy Food for Life, Nutrition Science Team.
- [102] Health Canada. (2019) *Canada's Dietary Guidelines for Health Professionals and Policy Makers*. Ottawa, Canada: Health Canada.
- [103] U.S. Department of Agriculture and U.S. Department of Health and Human Services. (2020) *Dietary Guidelines for Americans, 2020-2025*. Washington, DC, United States of America: U.S. Department of Agriculture and U.S. Department of Health and Human Services.
- [104] Menegassi, B., Almeida, J. B. D., Olimpio, M. Y. M., Brunharo, M. S. M., & Langa, F. R. (2018). A nova classificação de alimentos: teoria, prática e dificuldades. *Ciência & Saúde Coletiva*, **23**, 4165-4176.
- [105] Pan American Health Organization (PAHO). (2020) Novo relatório das Nações Unidas revela a desigualdade na distribuição geográfica da má nutrição na América Latina e no Caribe (New United Nations' report reveals inequality on geographic distribution of malnutrition in Latin America and Caribbean). <https://www.paho.org/pt/noticias/2-12-2020-novo-relatorio-das-nacoes-unidas-revela-desigualdade-na-distribuicao-geografica> (accessed October 2020).
- [106] Barbosa, R. M. S., Salles-Costa, R., & Soares, E. D. A. (2006). Guias alimentares para crianças: aspectos históricos e evolução. *Revista de Nutrição*, **19**, 255-263.
- [107] Eicher-Miller HA, Zhao Y. (2018) Evidence for the age-specific relationship of food insecurity and key dietary outcomes among US children and adolescents. *Nutrition Research Reviews*. Cambridge University Press, **31**(1), 98–113.
- [108] Alves MA, Souza AM, Barufaldi LA, Tavares BM, Bloch KV, Vasconcelos FA. (2019) Padrões alimentares de adolescentes brasileiros por regiões geográficas: análise do Estudo de Riscos Cardiovasculares em Adolescentes (ERICA). *Cadernos de saúde pública*, (35).

- [109] Montagnese, C., Santarpia, L., Buonifacio, M., Nardelli, A., Caldara, A. R., Silvestri, E., Pasanisi, F. (2015) European food-based dietary guidelines: A comparison and update. *Nutrition*, **31**(7-8), 908–915. doi:10.1016/j.nut.2015.01.002.
- [110] Oliveira, M. S. D. S., Arceño, M. A., Sato, P. D. M., & Scagliusi, F. B. (2019) Comparison of government recommendations for healthy eating habits in visual representations of food-based dietary guidelines in Latin America. *Cadernos de saude publica*, **35**.
- [111] Reddy G, van Dam RM. (2020) Food, culture, and identity in multicultural societies: Insights from Singapore. *Appetite*, **149**, 104633. doi: 10.1016/j.appet.2020.104633. Epub 2020 Feb 18. PMID: 32084519.
- [112] Guthrie, J., Mancino, L., & Lin, C. T. J. (2015) Nudging consumers toward better food choices: Policy approaches to changing food consumption behaviors. *Psychology & Marketing*, **32**(5), 501-511.
- [113] Truman, E. (2018) Exploring the visual appeal of food guide graphics: A compositional analysis of dinner plate models. *British Food Journal*.
- [114] do Amaral e Melo GR, Silva PO, Nakabayashi J, Bandeira MV, Toral N, Monteiro R (2020) Family meal frequency and its association with food consumption and nutritional status in adolescents: A systematic review. *PLoS ONE*, **15**(9): e0239274. <https://doi.org/10.1371/journal.pone.0239274>.
- [115] Bortolini, G. A., Moura, A., de Lima, A., Moreira, H., Medeiros, O., Diefenthaler, I., & de Oliveira, M. L. (2019) Guias alimentares: estratégia para redução do consumo de alimentos ultraprocessados e prevenção da obesidade (Food guides: a strategy to reduce the consumption of ultra-processed foods and prevent obesity). *Revista panamericana de salud publica = Pan American journal of public health*, **43**, e59. <https://doi.org/10.26633/RPSP.2019.59>.
- [116] Cheng AC, McDonald JR, Thielman NM. (2005) Infectious diarrhea in developed and developing countries. *J Clin Gastroenterol*, **9**, 757-73. doi: 10.1097/01.mcg.0000177231.13770.07. PMID: 16145337.
- [117] Riahi M, Mohammadi AA, Moghadam VK, Robati ZS, Bidkhorji M. (2018) Diarrhea deaths in children among countries with different levels of the human development index. *Data Brief*, **17**, 954-960. doi: 10.1016/j.dib.2018.02.019. PMID: 29876450; PMCID: PMC5988405.
- [118] Yan, Y., & Mi, J. (2021) Noncommunicable chronic disease prevention should start from childhood. *Pediatric investigation*, **5**(1), 3–5. <https://doi.org/10.1002/ped4.12254>.
- [119] Nilson, EAF, da Silva, EN, Jaime, PC. (2020) Developing and applying a costing tool for hypertension and related cardiovascular disease: Attributable costs to salt/sodium consumption. *J Clin Hypertens*, **22**, 642– 648.
- [120] Iglesias Vázquez L, Valera E, Villalobos M, Tous M, Arijia V. (2019) Prevalence of Anemia in Children from Latin America and the Caribbean and Effectiveness of Nutritional Interventions: Systematic Review and Meta-Analysis. *Nutrients* [Internet]. MDPI AG, **11**(1):183. Available from: <http://dx.doi.org/10.3390/nu11010183>.

[121] Couto, G. R., Dias, V., & de Jesus Oliveira, I. (2020) Benefits of exclusive breastfeeding: An integrative review. *Nursing Practice Today*.