

諸外国の食事摂取基準・食事ガイドラインにおける糖類の概要

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【研究要旨】

世界保健機関はFree sugarsの総エネルギー摂取量にしめる割合を10%以下に減らすことを推奨した。しかし、日本人の食事摂取基準2015年版では糖類摂取量の基準に関する記載が無い。本研究では、諸外国の食事摂取基準および食事ガイドラインにおける糖類の定義、基準値とその根拠を調査し、日本人における糖類の食事摂取基準策定のための基礎資料とすることを目的にした。厚生労働省が公開している諸外国の栄養政策食事摂取基準の概要と国連食糧農業機関が公開しているFood based dietary guidelines、Nutrition at a Glance Second Editionを参考に、諸外国の食事摂取基準および食事ガイドラインの糖類に関する記述の確認を行った。諸外国の食事摂取基準では糖類を示す用語にAdded sugars、Free sugars、Non-milk extrinsic sugarsを用いて、その摂取量がエネルギーにしめる割合あるいは重量の基準値が策定されていた。

日本人の食事摂取基準に糖類を策定するためには、まず糖類の定義を確立し、日本人の糖類摂取量の実態を明らかにする必要がある。

A. 背景と目的

世界保健機関(World Health Organization: WHO)は2015年にFree sugars(製造、調理、消費の過程において食品や飲料に添加される単糖、二糖類を含む糖類およびハチミツ、シロップ、果汁、濃縮果汁にもともと含まれている糖類)の総エネルギー摂取量にしめる割合を10%以下に減らすことを推奨した¹⁾。さらに最終的には5%まで減らすよう示唆している。英国のScientific Advisory Committee on Nutrition(SACN)も同様にFree sugar由来のエネルギーが総エネルギー摂取量にしめる割合が5%を超えないようにすることを推奨している²⁾。

一方で、我が国の食事指針である日本人の食事摂取基準2015年版では糖類摂取量の基準に関する記載は無く、今後の課題において「目標量の設定に資する研究を進める必要

がある」と示唆されているのみである³⁾。

本研究では、諸外国の食事摂取基準および食事ガイドラインにおける糖類の定義、基準値、糖類との関連を検討した健康影響を可能な限り網羅的に調査し、日本人における糖類の食事摂取基準策定のための基礎資料とすることを目的にした。

B. 方法

B-1. 食事摂取基準、食事ガイドラインの収集

厚生労働省が公開している諸外国の栄養政策食事摂取基準の概要⁴⁾と国連食糧農業機関(Food and Agriculture Organization of the United Nations:FAO)が公開しているFood based dietary guidelines⁵⁾、Nutrition at a Glance Second Edition⁶⁾のAppendix B.1: Global dietary guidelines and Dietary

Reference Intakes を参考に、諸外国の食事摂取基準および食事ガイドラインの確認を行った。

B-2. 情報の抽出

諸外国の食事摂取基準または食事ガイドラインの内容を吟味し、①糖類の定義、②基準値または糖類の摂取に対する提言、③糖類との関連を検討した健康影響に関する情報を抽出した。

C. 結果ならびに考察

合計 56 カ国が調査対象として収集された。調査対象国における地域別の内訳は、アフリカ 4 カ国(ナミビア共和国⁷⁾、ナイジェリア連邦共和国⁸⁾、シエラレオナ共和国⁹⁾、南アフリカ共和国¹⁰⁾、アジアと太平洋 19 カ国(オーストラリア連邦^{11,12)}、バーレーン王国・クウェート国^{13,14)}、バングラデシュ人民共和国¹⁵⁾、中華人民共和国^{16,17)}、フィジー諸島共和国¹⁸⁾、インド¹⁹⁾、インドネシア共和国²⁰⁾、日本国^{3,21)}、マレーシア^{22,23)}、ニュージーランド²⁴⁻³³⁾、フィリピン共和国^{34,35)}、大韓民国^{36,37)}、サウジアラビア王国³⁸⁾、シンガポール共和国³⁹⁻⁴²⁾、スリランカ民主社会主義共和国⁴³⁾、台湾⁴⁴⁾、タイ王国^{45,46)}、ベトナム社会主義共和国⁴⁷⁾、中近東 3 カ国(レバノン共和国⁴⁸⁾、オマーン国⁴⁹⁾、カタール国⁵⁰⁾、欧州 14 カ国(アルバニア共和国⁵¹⁾、ブルガリア共和国⁵²⁾、フランス共和国⁵³⁾、ジョージア⁵⁴⁾、ギリシャ共和国^{55,56)}、アイルランド⁵⁷⁻⁶⁰⁾、イスラエル⁶¹⁾、マルタ共和国⁶²⁾、オランダ王国⁶³⁻⁶⁶⁾、スロベニア共和国⁶⁷⁾、スウェーデン王国^{68,69)}、スイス連邦^{70,71)}、トルコ共和国⁷²⁾、グレートブリテン及び北アイルランド連合王国(イギリス)^{2,73-75)}、ラテンアメリカとカリブ海 14 カ国(アンティグア・バーブーダ⁷⁶⁾、バハマ諸島⁷⁷⁾、バルバドス⁷⁸⁾、ベリーズ⁷⁹⁾、ブラジル連邦共和国^{80,81)}、キューバ共和国^{82,83)}、ドミニカ国^{84,85)}、グリーンランド⁸⁶⁾、グレナダ⁸⁷⁾、ガイアナ共和国⁸⁸⁾、ジャマイカ⁸⁹⁾、セントルシア⁹⁰⁾、

セントビンセント及びグレナディーン諸島⁹¹⁾、セントキッツ・ネビス連邦⁹²⁾、北アメリカ 2 カ国(アメリカ合衆国⁹³⁻⁹⁶⁾、カナダ⁹⁷⁻⁹⁹⁾)であった。

合計 99 報の収集を行った(うち食事摂取基準 21、食事ガイドライン 78)。そのうち、56 報(うち食事摂取基準 12、食事ガイドライン 44)に糖類の定義、基準値とその根拠、糖類の摂取に対する提言、糖類との関連を検討した健康影響に関するいずれかの記述を確認した。

表 1 には糖類を示す用語と定義を示す。糖類は Added sugars (添加糖)^{16,37,93,100,101)}、Free sugars^{1,2,35)}、Non-milk extrinsic sugars^{53,73)} が用いられていた。定義は用語により若干の違いがあるが、調理の過程や食品の製造工程、消費(摂取)する場合に添加する単糖および二糖類(砂糖やはちみつ、シロップ、果汁などの調味料)を指しており、未調理の食品そのものに含まれるものではない。

表 2 には諸外国の食事摂取基準の糖類摂取基準値を示す。糖類の基準値を定めた国(機関)では、糖類の総エネルギー摂取量に占める割合を 25%以下⁹³⁾、10%以下^{1,35,37,73,82,101)}、10%未満¹⁶⁾、5%以下²⁾の制限を推奨していた。またフランス⁵³⁾は乳糖とガラクトースを除く全ての砂糖の総消費量を上限 100g/日に制限していた。基準値の策定にはう蝕、肥満(エネルギー摂取、体重増加)、栄養素摂取量への影響を根拠としていた。

表 3 には諸外国の食事バランスガイドに記載されている糖類の摂取量または摂取に対する提言を示す。多くの国で、砂糖または砂糖が入っている飲料や菓子類の摂取を控えるような提言がなされていた。

表 4 には糖類との関連を検討した健康影響を示す。策定根拠として糖類摂取量との関係が検討されていた健康影響はう蝕や肥満、栄養素摂取量への影響のほか、2 型糖尿病や血清脂質、血圧、心血管疾患であった。

糖類は Added sugars (添加糖)^{16,37,93,100,101)}、Free sugars^{1,2,35)}、Non-milk extrinsic

sugars^{53,73)}が用いられ、その摂取量がエネルギーにしめる割合あるいは重量の基準値が策定されていた。日本人の食事摂取基準に糖類を策定する場合においても、まずは糖類を示す用語とその定義を明確にする必要がある。

諸外国の糖類の基準値策定にはう蝕、肥満(エネルギー摂取、体重増加)、栄養素摂取量への影響が根拠となっていた。また、2型糖尿病や血清脂質、血圧、心血管疾患への影響も検討されており、基準値策定の参考となる。これまで日本人の食事摂取基準のエネルギーおよび各栄養素摂取基準値はそれぞれの摂取量と出納試験(例:ビタミンB₁摂取量と尿中ビタミンB₁排泄量)あるいは健康影響(例:ナイアシン摂取量とペラグラ)を加味して策定されてきた³⁾。今回の結果から糖類に関しても、う蝕や肥満の発症を予防する目的で基準値の設定出来る可能性がある。一方で、糖類の摂取量が他の栄養素摂取量に影響する可能性を考慮して基準値を設定している国(機関)もあった^{37,93)}。このことから、糖類の摂取基準値策定にあたっては、従来の各栄養素と出納試験・健康影響との考え方だけでなく、各栄養素摂取への影響も考慮すべきかを検討する必要がある。

基準値策定には、集団の習慣的な摂取量の記述が必要である。しかし日本人の習慣的な糖類摂取量を推定した報告した文献は少ない¹⁰²⁻¹⁰⁴⁾。そのため、WHOが推奨するFree Sugarsの摂取量¹⁾を超えているものがどの程度存在するのか不明である。これまでに日本人の糖類摂取量の推定値の報告が少なかったのは、日本標準食品成分表が2015年版(七訂)¹⁰⁵⁾に改訂されるまで糖類の摂取量を算出することができなかったためだと考える。

日本人の食事摂取基準に糖類を策定するためには、まず糖類の定義を確立し、日本人の糖類摂取量の実態を明らかにする必要がある。

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F. 健康危険情報

なし

G. 研究発表

1. 論文発表

なし

2. 学会発表

なし

H. 知的所有権の出願・登録状況

1. 特許取得

なし

2. 実用新案登録

なし

3. その他

なし

表1 諸外国の食事摂取基準および食事ガイドラインの糖類の用語とその定義

	国(文献番号)	策定機関	策定年 タイトル	糖類の用語	定義
食事摂取基準	WHO	(1) World Health Organization	2015 Sugars intake for adults and children	Free sugars	Free sugars include monosaccharides and disaccharides added to foods and beverages by the manufacturer, cook or consumer, and sugars naturally present in honey, syrups, fruit juices and fruit juice concentrates.
	China	(16) Chinese Nutrition Society	2016 Dietary Recommended Intakes (in Chinese)	添加糖	人工的に食物の中に加えられるブドウ糖、果糖、ショ糖、果糖ブドウ糖液糖
	Korea	(37) Ministry of Health and Welfare. The Korean Nutrition Society.	2015 Dietary Reference Intakes for Koreans 2015	Added sugars	食品の製造過程や調理時に添加される糖とシロップに白砂糖、黒砂糖、コーンシロップ、高濃度の果糖シロップ、メープル小麦シロップ、麦芽シロップ、パンケーキシロップ、蜂蜜、水飴、糖蜜、デキストロースなどを含む
	Philippines	(35) The Food and Nutrition Research Institute – Department of Science and Technology	2015 PHILIPPINE DIETARY REFERENCE INTAKES (PDRI)	Free sugars	All monosaccharides and disaccharides added to foods and drinks by the manufacturer, cook or consumer, including sugars naturally present in honey, syrups, fruit juices and fruit concentrates
	France	(53) Agence nationale de sécurité sanitaire de l'alimentation, de l'environnement et du travail	2016 The Recommended Dietary Intake Table (in French)	乳糖、ガラクトースを除く全ての砂糖の総消費量	フルクトースを含む糖質(スクロースグルコース・フルクトースシロップ、蜂蜜または他のシロップ、フルクトースを含有する天然の植物、天然のフルクトース)。但し、牛乳、乳製品に自然に存在する糖は除外。
	EU/EFSA	(100) European Food Safety Authority	2017 Dietary Reference Values for nutrients	Added sugars	Sucrose, fructose, glucose, starch hydrolysates (glucose syrup, high fructose syrup) and other isolated sugar preparations used as such or added during food preparation and manufacturing.
	Nordic countries	(101) Nordic Concl Ministers	2012 Nordic Nutrition Recommendations	Added sugars	Sucrose, fructose, glucose, starch hydrolysates (glucose syrup and high-fructose syrup), and other isolated sugar preparations used as such or added during food preparation and manufacturing.
	United kingdom	(2) Scientific Advisory Committee on Nutrition	2015 Dietary Reference Intakes Carbohydrates and Health	Free sugars	All monosaccharides and disaccharides added to foods by the manufacturer, cook or consumer, plus sugars naturally present in honey, syrups and unsweetened fruit juices.
		(73) Committee on Medical Aspects of Food Policy, Panel on Dietary Reference.	1991 Dietary reference values for food energy and nutrients for the United Kingdom.	Non-milk extrinsic sugars	Sugars not contained within the cellular structure of a food except lactose in milk and milk products.
食事ガイドライン	US/Canada	(93) The Institute of Medicine	2005 Dietary Reference Intakes	Added sugars	Sugar and syrups that are added to foods during processing and preparation.
	Ireland	(59) Food Safety Authority of Ireland	2011 Scientific Recommendations for Healthy Eating Guidelines in Ir Sugar		"non-milk extrinsic sugars" and include table sugar, syrups, fruit juice and sugars added to foods.

表 2 諸外国の食事摂取基準における糖類の基準値とその根拠

国(文献番号)	タイトル	糖類の用語	基準値	根拠
WHO	(1) Sugars intake for adults and children	Free sugars	<10%En(上限値)	う歯、肥満
China	(16) Dietary Recommended Intakes (in Chinese)	添加糖	10%エネルギー未満もしくは50g/日未満	う歯、肥満
Korea	(37) Dietary Reference Intakes for Koreans 2015	添加糖 (added sugars)	≤10%En	メタボリックシンドロームのリスク、栄養素摂取への影響、WHOの基準
Philippines	(35) PHILIPPINE DIETARY REFERENCE INTAKES (PDRI)	Free sugars	≤10%En	WHOの基準を参照
France	(53) The Recommended Dietary Intake Table (in French)	乳糖、ガラクトースを除く全ての砂糖の総消費量	成人のみ(子供や青少年、脆弱者は除く)に対して乳糖とガラクトースを除く全ての砂糖の総消費量を上限100g/日	う歯、血中中性脂肪、体重増加
Nordic countries	(101) Nordic Nutrition Recommendations	Added sugars	≤10%En	栄養バランスの取れた食事
Sweden	(68) Swedish Nutrition Recommendations Objectified	Saccharose	<10%En	記載なし
United kingdom	(2) Dietary Reference Intakes Carbohydrates and Health	Free sugars	≤5%En	う歯、エネルギー摂取
	(73) Dietary reference values for food energy and nutrients for the United Kingdom.	Non-milk extrinsic sugars	≤10%En	う歯
Cuba	(83) Dietary reference intakes for the cuban population	Sugars	≤10%En	記載なし
US/Canada	(93) Dietary Reference Intakes	Added sugars	≤25%En	微量栄養素の摂取量への影響

表 3 諸外国の食事ガイドにおける糖類に関する提言

国(文献番号)	タイトル	提言
Nigeria	(8) Food-based dietary guidelines for Nigeria – a guide to healthy eating.	Decrease consumption of sugar and food high in sugar content.
Sierra Leone	(9) Sierra Leone Food-Based Dietary Guidelines for Healthy Eating.	Use sugars, foods and drinks made with sugar in moderation (added sugars).
Australia	(11) Australian Dietary Guidelines.	Reducing added sugar.
Bangladesh	(15) Dietary guidelines for Bangladesh.	Take less sugar, sweets or sweetened drinks.
China	(17) Dietary guidelines for Chinese residents.	添加糖(人工的に食物の中に加える甘みのある糖で、ブドウ糖・果糖・ショ糖・果糖ブドウ糖液糖で日常的に使われるのは白砂糖、粉糖、□砂糖、□糖である)を50g/日以下、可能であれば25g/日以下に制限することを推奨する
Fiji	(18) Food and health guidelines for Fiji.	Choose and prepare food and drinks with less salt, sugar, fat and oil.
India	(19) Dietary guidelines for Indians – a manual.	Minimize the use of processed foods rich in salt, sugar and fats. Limit consumption of sugar.
Malaysia	(23) Malaysian Dietary Guidelines.	Consume foods and beverages low in sugar.
New Zealand	(24) Food and Nutrition Guidelines for Healthy Pregnant and Breastfeeding Women.	Prepare foods or choose pre-prepared foods, drinks and snacks: with little added sugar; limit your intake of high-sugar foods.
	(25) Food and Nutrition Guidelines for Healthy Infants and Toddlers (Aged 0–2).	For your baby, prepare or choose pre-prepared complementary foods with no added fat, salt, sugar, honey or other sweeteners. For your toddler, prepare foods or choose pre-prepared foods, drinks and snacks that have little added sugar (and limit your toddler's intake of high-sugar foods).
	(26) Food and Nutrition Guidelines for Healthy Older People.	Prepare foods or choose pre-prepared foods, drinks and snacks: with little added sugar (limit your intake of high-sugar foods).
	(29) Food and Nutrition Guidelines for Healthy Children and Young People (Aged 2–18 years).	Prepare foods or choose pre-prepared foods, snacks and drinks that are: low in sugar, especially added sugar..
Singapore	(39) MY HEALTHY PLATE.	Limit intake of sugar: Limit your daily intake of added sugar to 8 – 11 teaspoons (40 – 55 grams).
	(40) Build a Healthy Food Foundation.	Reduce fat, oil, salt and sugar.
	(41) Food-Based Dietary Guidelines: Singapore.	Added sugar should contribute to no more than 10% of dietary energy.
Sri Lanka	(43) Food-based dietary guidelines for Sri Lankans.	Take less sugar, sweets or sweetened drinks.
Thailand	(45) Food-based dietary guidelines for Thai.	Avoid sweet and salty foods (sugar ≤10%En ; 40-55g ,3-4 tabelle spoon /day).
	(46) Nutrition Flag: Healthy Eating for Thais.	Sugar should be consumed in limited amounts.
Lebanon	(48) The Food-Based Dietary Guideline Manual for Promoting Healthy Eating in the Lebanese Adult Population.	Maximum Limit for Daily Sugar Intake: Less than 10 teaspoons of added sugar per day.
Oman	(49) The Omani guide to healthy eating.	Free sugars should not exceed 10% of the total calories in the diet..
Qatar	(50) Qatar Dietary Guidelines.	Limit Sugar, Salt and Fat: Limit sweetened food and beverages, foods low in sugar have 5g or less of total sugars per 100g.
Albania	(51) Recommendations on healthy nutrition in Albania.	Choose food containing less sugar and do not use too much sugar, reducing the sweet beverages and deserts.
Bulgaria	(52) Food based dietary guidelines for adults in Bulgaria.	Limit the consumption of sugar, sweets and confectionery, avoid sugar-containing soft drinks.
Georgia	(54) Healthy eating – the main key to health.	Choose foods with low content of sugar, limit consumption of sweets.
Ireland	(59) Scientific Recommendations for Healthy Eating Guidelines in Ireland.	Sugars("non-milk extrinsic sugars" and include table sugar, syrups, fruit juice and sugars added to foods.) ≤ 10%En
	(60) Healthy Food for Life – the Healthy Eating Guidelines .	Limit high fat, sugar and salt foods from the top shelf of the Pyramid to no more than once or twice a week.
Malta	(62) The healthy plate: Dietary guidelines for Maltese adults.	Limit your consumption of these types of foods: Saturated and trans fat, sugars and salt.
Netherlands	(64) Guidelines for a Healthy Diet: The Ecological Perspective.	To counter excess body weight, reduce energy intake, particularly by eating less non-basic foods such as sugary drinks, sweets, cakes and snacks.
	(65) Dutch dietary guidelines 2015.	Minimise consumption of sugar-containing beverages.
	(66) The 2015 Dutch food-based dietary guidelines.	Consumption of one to two glasses of sugar-containing beverages a day leads to a higher risk of diabetes.
Slovenia	(67) Resolution on the National Programme of Food and Nutrition Policy 2005-2010.	Add moderate amounts of sugar and select foods with reduced sugar content. Limit the frequency of confectionery intake and consumption of sweet drinks.
Sweden	(69) Find your way to eat greener, not too much and to be active!.	Less sugar.
Switzerland	(70) Food Pyramid of the Swiss Society for Nutrition.	Limit intake of free sugars.
Turkey	(72) Dietary guidelines for Turkey.	Reduce the consumption of sugar beverages and sweets and choose foods containing less sugar.

表 3 諸外国の食事ガイドにおける糖類に関する提言(続き)

国(文献番号)	タイトル	提言
United kingdom	(74) FSA Nutrient and Food-Based Guidelines for UK Institutions.	Just a little saturated fat, salt and sugar.
	(75) Eatwell Guide.	•39% of food energy= Intrinsic and milk sugars, and starch Choose foods lower in fat, salt and sugars.
Antigua and Barbuda	(76) Food-based dietary guidelines for Antigua and Barbuda.	Reduce the intake of food and drinks that are high in sugars and fats.
Bahamas	(77) The new dietary guidelines for the Bahamas.	As often as possible, choose foods with less sugar and less salt.
Barbados	(78) Food-based dietary guidelines for Barbados.	Choose food and beverages with less added sugar every day.
Brazil	(80) Dietary Recommendations: Comparing Dietary Guidelines from Brazil and the United States.	Simple sugars should account for a maximum of 10% of total energy intake (one portion/day).
Brazil	(81) Dietary Guidelines for the Brazilian Population 2014.	Use oils, fats, salt, and sugar in small amounts when seasoning and cooking natural or minimally processed foods and to create culinary preparations.
Cuba	(83) Cubans Team up for Better Nutrition.	Cut down on sugar.
Dominica	(85) Dominica food-based dietary guidelines.	Choose less sweet foods and drinks.
Grenada	(87) Food-based dietary guidelines for Grenada.	Choose to use less sweet foods and drinks.
Jamaica	(89) Food-based dietary guidelines for Jamaica: Healthy eating - Active living.	Reduce intake of sugary foods and drinks.
Saint Lucia	(90) Dietary guidelines for Saint Lucia.	Choose less beverages and packaged foods with added sugar.
Saint Vincent and the Grenadines	(91) Dietary guidelines for St. Vincent and the Grenadines.	Reduce the intake of sugar: use less sugar, sweet foods and drinks.
Saint Kitts and Nevis	(92) Food-based dietary guidelines for St. Kitts and Nevis.	Limit the use of foods and drinks with added salt and sugar.
United States of America	(94) Dietary sugars intake and cardiovascular health: a scientific statement from the American Heart Association.	Most American women should eat or drink no more than 100 calories per day from added sugars, and most American men should eat or drink no more than 150 calories per day from added sugars.
	(95) 2015–2020 Dietary Guidelines for Americans.	Limit calories from added sugars and saturated fats and reduce sodium intake. Consume less than 10 percent of calories per day from added sugars.
	(96) MyPlate Food Guide.	Choose an eating style low in saturated fat, sodium, and added sugars.
Canada	(97) Canada's Guidelines for Healthy Eating.	Limit foods and beverages high in calories, fat, sugar or salt.
	(98) Eating Well with Canada's Food Guide.	Enjoy vegetables and fruit prepared with little or no added fat, sugar or salt.Choose grain products that are low in fat, sugar or salt.
	(99) Eating Well with Canada's Food Guide: First Nations, Inuit and Métis.	Enjoy vegetables and fruit prepared with little or no added fat, sugar or salt.Choose grain products that are low in fat, sugar or salt.

表 4 諸外国の食事摂取基準および食事ガイドライン糖類作成にあたり検討がなされた健康影響

	国(文献番号)	タイトル	健康影響
食事摂取基準	WHO	(1) Sugars intake for adults and children	Dental caries/Obesity
	China	(16) Dietary Recommended Intakes (in Chinese)	う歯/血中脂質やコレステロール値に影響/血糖とインスリン反応
	Malaysia	(22) Recommended Dietary Allowances: Harmonization in Southeast Asia	Energy intake/Obesity,excess
	EFSA	(100) Dietary Reference Values for nutrients	Dental caries /Body weight/ Type 2 diabetes mellitus/Glucose tolerance and insulin sensitivity/ Micronutrient density of diet/ Serum lipids/ Other cardiovascular risk factors(blood pressure)
	Nordic countries	(101) Nordic Nutrition Recommendations	Blood pressure/Type 2 diabetes/Body weight/Pregnancy outcome/Dental caries/Nutrient Density
	United kingdom	(2) Dietary Reference Intakes Carbohydrates and Health	Oral health (dental caries)/Energy intake/Body mass index and body fatness/Weight gain/Waist circumference/Impaired glucose tolerance/Insulin resistance, sensitivity/HbA1c/Type2 diabetes mellitus/Blood glucose/Blood insulin/Glycemia/Insulinaemia/Coronary events/Blood pressure and hypertension/Fasting blood lipids (Total cholesterol, LDL-cholesterol, HDL-cholesterol, triacylglycerol)/Cardiovascular disease event/Stroke/Vascular compliance/Colo-rectal, colon and rectal cancer/Oral cancer/CRP, haptoglobin and transferrin/Eating motivation/Glycosylated blood protein/Faecal weight/Intestinal transit time/Periodontal disease
US/Canada	(93) Dietary Reference Intakes	Dental Caries/Obesity/Insulin Sensitivity and Type 2 diabetes/Triacylglycerol, LDL, and HDL coresterol concentration/Cancer (Lung, Breast, Prostate, Colorectal)/Behaviour/Micronutrient density of diet	
食事ガイドライン	Nigeria	(8) Food-based dietary guidelines for Nigeria – a guide to healthy eating.	Obesity/Diabetes mellitus/Cardiovascular disease
	Sierra Leone	(9) Sierra Leone Food-Based Dietary Guidelines for Healthy Eating	Dental caries/Weight gain
	South Africa	(10) Food-based dietary guidelines for South African.	Dental caries/Type 2 diabetes mellitus/Obesity/Cardiovascular disease/Micronutrient intake
	Bahrain	(14) Food-Based Dietary Guidelines for the Arab Gulf Countries	Dental caries/Obesity
	Fiji	(18) Food and health guidelines for Fiji.	Dental caries/Overweight and obesity/Diabetes mellitus
	India	(19) Dietary guidelines for Indians – a manual.	Dental caries/Obesity/Serum lipids
	Malaysia	(23) Malaysian Dietary Guidelines	Dental caries/Obesity/Diabetes mellitus/Micronutrient deficiency, dilution/Heart disease/Behaviour and cognitive function
	New Zealand	(29) Food and Nutrition Guidelines for Healthy Children and Young People (Aged 2–18 years)	Dental caries/Obesity
	Philippines	(34) 2012 nutritional guidelines for Filipinos	Cardiovascular diseases
	Saudi Arabia	(38) Dietary Guidelines for Saudis: The Healthy Food Palm	Body weight
	Singapore	(41) Food-Based Dietary Guidelines: Singapore	Energy intake/Body weight/Nutrient componets of the diet
	Sri Lanka	(43) Food-based dietary guidelines for Sri Lankans.	Dental caries/Obesity
	Thailand	(45) Food-based dietary guidelines for Thai	Dental caries/Appetite
	Lebanon	(48) The Food-Based Dietary Guideline Manual for Promoting Healthy Eating in the Lebanese Adult Population	Dental caries/Overweight and obesity/Chronic diseasese
	Oman	(49) Food-Based Dietary Guidelines: Technical Background and Description	Dental caries/Obesity
	Bulgaria	(52) Food based dietary guidelines for adults in Bulgaria.	Dental caries/Overweight and obesity/Hypertension/Cardiovascular diseases,/Type 2 Diabetes mellitus
	Ireland	(59) Scientific Recommendations for Healthy Eating Guidelines in Ireland	Dental caries
	Turkey	(72) Dietary guidelines for Turkey	Energy intake/Obesity/Nutrient Density/Dental caries
	Barbados	(78) Food-based dietary guidelines for Barbados.	Overweight and obesity/Blood pressure/Cardiovascular disease
	United States of America	(94) Dietary sugars intake and cardiovascular health: a scientific statement from the American Heart Association.	Energy intake/Obesity/Glucose-Insulin Response/Blood Pressure/Lipids/Inflammation/Energy Density/Nutrient Adequacy

