Food classification criteria according to nutritional standards (Nutrient Profile)

The Committee developed criteria to classify foods according to nutritional standards.

Bureau of Nutrition, Department of Health, Ministry of Public Health

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Foreword

Good nutrition for children is important to their growth and health in both the short and long term. However, food provided and sold to children It also has low nutritional value and is high in fat, sugar, and sodium. The Department of Health therefore has prepared food classification criteria according to nutritional standards (Nutrient Profile) through the committee on food classification according to nutritional standards, consisting of experts Qualifications and experts in food and nutrition including paediatricians from the Department of Health and various universities.

The food classification criteria book according to nutrition standards (Nutrient Profile) has set principles for creating food classification criteria. and criteria for categorizing 7 types of food, including main meals Semi-finished foods, snacks, baked goods, steamed, fried, desserts and ice cream, beverages, milk and milk products. It considers energy and nutrients for classifying good and bad foods for children's health. for parents child caregiver school-age children and those involved in the arrangement and distribution of food has chosen healthy food for children to consume on a daily basis.

The Committee sincerely hopes that this Nutrient Profile book will be of benefit to the Government and private sectors to promote and support the production of food that is good for children's health. and reducing food production that negatively affects children's health, which will lead to health promotion and prevention of chronic non-communicable diseases.

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Criteria for classification of food according to nutritional standards (Nutrient Profile)

Prevalence of chronic non-communicable diseases Non-Communicable Diseases (NCDs) tend to increase as a result of being overweight and obese. An important factor related to food is the consumption of foods that are high in sugar, sodium and fat, especially in children under 18 years of age. unsuitable According to the 2008-09[1] Food Consumption Survey of Thai people, it was found that most children aged 2-14 years consumed foods that negatively affect their weekly health. 1-3 days per day, with children aged 2-5 years and children 6-14 years consuming approximately the same, that is, about 1 in 4 people drink soft drinks, eat chocolate candy, about 1 in 3 people consume instant noodles, cookies, stuffed bread, cakes and pies. Foods that are harmful to health that are consumed daily are Crunchy snacks found about 1 in 3 people from such behaviors, resulting in children having short stature and an increasing tendency to be obese. Pre-school children were more likely to be short than other nutritional problems, while school-age and adolescents were more likely to be obese than other nutritional problems. This leads to the risk of chronic non-communicable diseases in the future. The important factors that affect the food consumption behavior of children are marketing promotion Advertising through various media including social media[2]

However, children should consume nutritious foods in appropriate proportions. for their full potential and health Profile) to be used as a tool to classify foods that are healthy and foods that are unhealthy. and control the marketing of food and beverages that affect children's health. This leads to the promotion of the consumption of healthy food and the reduction of the consumption of unhealthy food.

Criteria for classification of food according to nutritional standards (Nutrient Profile)

It categorizes foods and beverages according to their nutritional composition, taking into account the nutritional energy needed for good health, i.e. protein, iron, calcium, vitamin B2, dietary fiber and Nutrients that have an adverse effect on health are total fat, saturated fatty acids, sodium, and sugar. Health, however, the nutrients are prescribed depending on the type of food. Some nutrients are specified in 1 food type, for example, vitamin B2 is prescribed in milk and milk products etc

Objective

1. To classify food for use in the food and beverage market for children **under 18 years of age.**
2. To use **tax policies to incentivize** the production of nutritious and limited food. consumption of unhealthy food
3. To develop **standard criteria** for food distributed and distributed in early childhood development institutions and educational institutions.

4. To improve the amount of nutrients that negatively affect health, such as total fat, saturated fatty acids, sodium, and sugar appropriately.

Type of food that uses food classification criteria

1. main meal
2. Semi-finished food
3. Snacks
4. Baked goods, steamed, fried
5. Sweets and Ice Cream
6. Drinks
7. Milk and milk products

Determination of maximum and minimum amounts of energy and nutrients for use in determining food classification criteria according to nutritional standards (Nutrient Profile).

The World Health Organization (WHO) and the committee/working group to improve the daily nutrient intake requirements for Thai people 3-5 have set the amount of Nutrients recommended in 1 day by the committee for categorizing foods according to nutritional standards. Calculate the average daily intakes of energy and protein for children aged 2-18 years from their daily intakes of nutrients for children aged 2-18. Accepting Thai people in 2020 (Dietary Reference Intake for Thais: DRI 2020) will have energy equal to 1,700 kcal and protein content equal to 38 grams, sugar, total fat and saturated fatty acids. Set less than or equal to 5, 30 and 10 percent of the daily average reference energy intake of children aged 2-18 years respectively. The amount of sugar, total fat, and saturated fatty acids were less than or equal to 21.2 g, 56.7 g, and 18.9 g, respectively. The proportion of sodium is less than or equal to 1 milligram per 1 kilocalorie of energy, the amount of sodium is less than or equal to 1,700 milligrams.

The food classification criteria according to nutritional standards (Nutrient Profile) set a framework for maximum energy, sugar, total fat, saturated fatty acids and sodium, minimum protein. By dividing food in 1 day into 3 main meals, 2 portions of fruit, 2 glasses of milk, dessert (snacks, desserts, pastries, steamed, fried) 1 time and less drinks. or equal to 1 glass.

Therefore, when calculating and distributing energy and nutrients as prescribed in 1 day, the amount of energy is 1,705 kilocalories, the amount of sugar is 23 grams, or 5.4% of the energy received (1,705 kilocalorie). Protein content 53.1 grams or 12.5% of energy received (1,705 kcal) Total fat content 55.8 grams or 29.5% of energy received (1,705 kcal) Saturated fatty acid content 19 grams or 10.0% of energy received (1,705 kcal) and sodium content 1,890 mg, details as shown in Table 1.

Table 1: Maximum energy content, sugar, total fat, saturated fatty acids and sodium, and protein content. Minimum for use in the preparation of the Nutrient Profile

food	energy		sugar			protein			total fat			saturated fat	sodium	note
	kcal	Percentage	gram	kcal	Percentage	gram	kcal	Percentage	gram	kcal	Percentage	kcal	mg	
main meal	1,155	67.9	3	12	0.7	36.0	144.0	8.4	38.5	346.5	20.3	12	1,590	3 meals(385 kcal per meal)
Fruit	130	7.6	nature	0	0	0	0	0	0	0	0	-	very small quantity	2 portions (65 kcal per section)
milk	280	16.5	nature	0	0	14	56	3.3	14	126	7.4	6	200	2 glasses (140 kcal

														per glass)
candy*	100	5.9	10	40	2.3	3.1	12.5	0.7	3.3	29.7	1.7	1	100	1 time per day
drink	40	2.4	10	40	2.3	0	0	0	0	0	0		very small quantity	⩽1 glasses
Total	1,705	100.3	23	92	5.4	53.1	212.5	12.5	55.8	502.2	29.5	19	1,890	
Recommended amount in 1 day	1,700		≤21.2			≥38			≤56.7			≤18.9	≤1,700	
Percentage of recommended amount	100.3		108.5			139.8			98.4			100.5	111.2	

*Snacks, desserts, pastries, steamed, fried

Determination of energy and nutrient content

Criteria for food classification determines the amount of energy and nutrients per 1 reference serving, except for the main meal, which specifies the amount of nutrients per 100 kcal. with the following criteria

1. Energy Main meals are set to be in the range of 250-500 kilocalories per serving, semi-finished meals are set to be in the range of 150- <250 kcal per serving, snacks, not more than 100 kcal per serving, 5.9% of the average daily reference energy of Children aged 2-18 years and beverages no more than 40 kcal per serving, 2.4% of the average daily energy intake for children. 2-18 years old.

2. Protein Determine the protein content in all types of food except semi-finished food and beverages. The main meal determines the protein content according to the criteria of Healthier choice6. Dairy and milk products The protein content is determined from the Food Composition Table database of the Bureau of Nutrition and the Institute of Nutrition 7,8. The portion of snack food, pastries, steamed, fried desserts and ice cream is determined. protein using the average protein content Accounting for 10-15 percent of the energy that should be received in a day according to the recommendations of the World Health Organization (WHO) and the committee / working group for improving the requirements. According to the nutrient intake that should be received daily for Thai people, 3,5 will be equal to 12.5%. 12.5 of product energy in snack food, pastries, steamed, fried, desserts and ice cream.

3. Sugar Determine the amount of sugar in all types of food. The main meals are sugar content according to the criteria of Healthier choice6, dairy foods and milk products. Determine the sugar content from the Food Composition Table database of the Department of Nutrition and the Institute of Nutrition 7,8 for semi-finished foods, snacks, pastries, steamed, fried desserts. and ice cream and beverages, although the World Health Organization (WHO) recommends that the amount of added sugar in food not exceed 5% of the energy intake in 1 But there are conditions that must pass discussion and stakeholder participation4 and recommendations for the preparation of food classification criteria according to the WHO Nutrient Profile Model for South-East Asia Region9 Reduce sugar content less than 10% of product energy. Therefore, it is used according to the WHO guidelines, that is, the sugar content is not more than 10% of the energy in semi-finished products, snacks, pastries, steamed, fried, desserts and ice cream. and drink

4. Total Fat Determines the amount of total fat in all foods. The main meal is the total fat content according to the criteria of Healthier choice6. Dairy and milk products Total fat content was determined from the Food Composition Table database of the Bureau of Nutrition and the Institute of Nutrition7,8. As for semi-finished food, snacks, pastries, steamed, fried, desserts and ice cream. and drink The World Health Organization (WHO)3 has recommended the total fat content of 15-30

percent of the energy received in 1 day, therefore, the total fat content must not exceed 100 percent. 30 of energy, semi-finished food products, snacks, pastries, steamed, fried, desserts and ice cream. and drink

5. Saturated fatty acids Determine the amount of saturated fatty acids in main meals and semi-finished meals. by main meal Set the saturated fatty acid content according to the criteria of Healthier choice6. As for semi-finished food, the World Health Organization (WHO) and the committee/working group to improve the requirements Prescribing nutrients that should be received daily for Thai people3,5 It has recommended saturated fatty acid content not more than 10% of energy received in 1 day, therefore, saturated fatty acid content is not more than 10% of energy in semi-finished food products.

6. Sodium Determine the amount of sodium in all types of food. The main meal is the amount of sodium according to the criteria of Healthier choice6, milk and milk products. Determine sodium content from the Food Composition Table database of the Bureau of Nutrition and the Institute of Nutrition7,8. As for semi-finished food, snacks, pastries, steamed, fried, desserts and ice cream. and beverages, the World Health Organization (WHO)3 has recommended a maximum sodium intake of no more than 2,000 milligrams per day. meanwhile The recommended amount of energy consumed in 1 day for an adult is 2,000 kcal, so the ratio of sodium is not more than 1 mg per 1 kcal of energy.

7. Calcium Determine the amount of calcium in the main meal. Milk and milk products The main meal was based on calcium content according to the Healthier choice6 criteria. Milk and milk products Determine calcium content from the Food Composition Table database of the Bureau of Nutrition and the Institute of Nutrition7,8.

8**. Iron** Determine the amount of iron in one type of food, which is the main meal. determined according to the criteria of Healthier choice6

9. Vitamin B2 Determine the amount of vitamin B2 in only one type of food, namely milk and milk products. by food, milk and milk products The amount of vitamin B2 was determined from the Food Composition Table database of the Bureau of Nutrition and the Institute of Nutrition7,8.

10. Dietary fiber Determine the amount of dietary fiber in the main meal. and drink The main meals and beverages were prescribed dietary fiber according to the criteria of Healthier choice6.

Food quality classification

1. Scores are assigned according to the amount of energy and nutrients per 1 reference serving of each type of food, divided into 3 levels:

1.1 Standard level (green bar) means energy content, total fat, saturated fatty acids. Sugar, sodium, protein, calcium, vitamin B2 and dietary fiber as specified in the energy and nutrients section of each type of food equal to 2 points, except for the energy and fat of dairy and produce products. Milk products equal to 1 point

1.2 Out of range level (yellow bar) means energy content, total fat, saturated fatty acids Sugar, sodium, protein, calcium, vitamin B2 and dietary fiber were between the standard level and the outlier level by more than 1 point, except for the energy and fat of the food. Milk and dairy products equal to 0.5 points.

1.3 Extremely low level (red bar) means energy content, total fat, saturated fatty acids, sugar, sodium, which are more than or equal to 2 times the standard level, protein, calcium, and vitamins. B2 and dietary fiber are less than or equal to half of the standard level, equal to 0 points.

2. Determine food quality according to food classification criteria. The overall score is derived from the energy and nutrient content of the product. and calculated as percentages to divide food grades into A, B and C as follows:

Grade A total score greater than or equal to 80%

Grade B total score between 60%–less than 80%

Grade C, total score less than 60%

Prohibited food for marketing

Some and some foods are high in sugar, total fat, saturated fatty acids, and sugar substitutes. and has no nutritional value which negatively affects health Details see in the appendix.

Table 2 Prohibited foods for marketing

type of food	Prohibited food for marketing
1. Sweets	Group of candies, candy, lollipops, marshmallows
2. Drinks	caffeinated beverages (energy drink)
3. Milk and milk products	Sweetened condensed milk/sweetened condensed creamer
4. All types of food	Foods with added sweeteners instead of sugar.

Criteria for main meals

main meal

Main meal means food that is produced and ready to consume as the main meal of the day. Not food eaten between meals. and packed in containers ready for immediate distribution 10 Divided into food groups as follows:

1. Ready-to-cook one-dish dishes such as pork kale fried rice, minced pork omelette rice Holy Basil Fried Rice Crispy Pork with Rice Topped with Stir Fried Chili Paste with Pork and Long Bean Curry Rice topped with a variety of rice (curry, stir-fry, tom yam), red pork noodle soup Dried Noodles with Peking Duck and Noodles Noodles with pork, pad Thai, stir-fried vermicelli, stir-fried noodles, Nam Ngiao, etc.

2. Fast food such as pizza, hamburgers ready-to-eat sandwiches, etc.

3. Chilled/frozen food It is ready-to-eat food for immediate consumption. which must be kept in the refrigerator or freezer throughout the period of sale in a container that is ready to be eaten, which must be passed through a microwave oven before consumption, such as fried rice, fried rice with basil, and rice with eggs Fried rice, crispy pork with rice, rice with duck, rice with various

types of rice (such as curry, clear soup, green curry, various salads, pork garlic), pizza, hamburgers, etc.

Nutrients

Because based on the criteria of nutritional symbols “Healthier choice”6 therefore defines 8 types of nutrients, namely protein, calcium, iron, dietary fiber, total fat, saturated fatty acids, sugar and sodium, which are considered from the nutrients that the body should have. Get it for good health effects. along with nutrients that, if taken in excess, are at risk of chronic non-communicable diseases

Food classification criteria according to nutritional standards

1. Determine the score of the main meal. It is calculated from the amount of nutrients per 100 kcal of energy, except for protein, calcium and iron, which are prescribed both per 100 kcal and per serving in some points and are divided. The score level of each nutrient is 6 levels, ranging from the lowest score equal to 0 points and the highest score equal to 5 points, with the total score equal to 40 points and divided Levels are divided into 3 levels, namely

Level 1 greater than or equal to 32–40 points (greater than or equal to 80%)

Level 2 between 24–31 points (60%–less than 80%)

Level 3 less than 24 points (less than 60%)

2. Set the accompanying criteria as follows:

2.1 The energy of food products in this group must be in the range of 250–500 kcal per serving.

2.2 Total fat nutrient score Saturated fatty acids, sugar and sodium must not be 0.

Criteria for classifying food into levels A, B, C as follows:

grade	score	considerations
A (green)	≥32-40	must pass the considerations in item 2.1 and item 2.2
B(yellow)	24-31	must pass the considerations in item 2.1 and item 2.2
C (red)	< 24	Do not need to pass all requirements

Table 3 Criteria for categorizing main meals according to nutritional standards

nutrients	unit	score					
		0	1	2	3	4	5
protein	gram	<0.50, >25*	0.50–1.00	1.01–1.50	1.51–2.00	2.01–2.50	>2.50, ≤25*
calcium	mg	<8 , >750	8–16	17–24	25–32	33–40	>40, ≤750*
iron	mg	<0.14, >11.25*	0.14–0.28	0.29–0.42	0.43–0.56	0.57–0.70	<0.7, ≤ 11.25*
dietary fiber	gram	<0.25	0.25–0.50	0.51–0.75	0.76–1.00	1.01–1.25	>1.25

total fat	gram	>3.25	2.94–3.25	2.62–2.93	2.30–2.61	1.98–2.29	≤1.97
saturated fatty acids	gram	>1.00	0.96–1.00	0.91–0.95	0.86–0.90	0.81–0.85	≤0.80
total sugar	gram	>1.25	1.01–1.25	0.76–1.00	0.51–0.75	0.25–0.50	<0.25
Sodium Phase 1 2016-2021	mg	<75, >175	156–175	136–155	116–135	96–115	75–95
Phase 2 2022-2024	mg	<75, >150	136-150	121–135	106–120	91–105	75–90
Phase 3 2025-2027	mg	<75, >125	116-125	106-115	96-105	86-95	75–85

* Quantity per serving

Interpretation of food quality results:

Grade A = ⩾32 – 40 points, must pass considerations 2.1 and 2.2

Grade B = 24–31 points. Must pass considerations 2.1 and 2.2.

Grade C = <24 points or fails in all requirements

Criteria for semi-finished food

semi-finished food

Semi-finished food11 means food that has been processed and partially prepared. And used to eat food after a simple and short process by adding hot water, boiling or adding other food into divided into 3 groups as follows

Group 1: Instant noodles such as noodles, noodles, noodles, rice vermicelli and flavored vermicelli, etc.

Group 2 : Instant Porridge and Congee

Group 3: Soups and instant soups such as concentrated soups, cubes, powders, or dry soups, excluding cubes or soups. seasoning powder

Energy and Nutrients

Consideration of semi-finished food with regard to energy. and nutrients that have an adverse effect on health, such as total fat, saturated fatty acids, sugar, and sodium. The standard volumes are as follows:

1. Energy: Determine the energy content of semi-finished food in the range of 150–<250 kcal and use the average energy value of all 3 food groups from Nutritional value database of the Institute of Nutrition8, comparing one reference serving to 192 kcal and adjusting the figure according to the labeling criteria. Nutrition12 Therefore, the energy content of semi-finished food is less than or equal to 190 kcal to be used as the basis for calculating the criteria. total fat, saturated fatty acids, sugar and sodium, but were not taken into account for the score.

2. Total fat Total fat content is set not to exceed 30% of the energy of semi-finished food products (190 kcal), equal to 47.5 kcal (190 x 30/100) or was 6.3 grams of fat and adjusted the figure according to the nutrition labeling criteria12. Set the total fat content of semi-finished food to be less than or equal to 6 grams.

3. Saturated fatty acids Determine the amount of saturated fatty acids not more than 10% of the energy of semi-finished food products (190 kcal), equal to 19 kcal (190 x 10/100), or equivalent to 2.1 g of saturated fatty acids and adjust the figures according to the nutrition labeling criteria12. Therefore, the saturated fatty acid content of semi-finished foods is less than or equal to 2 g.

4. Sugar: Determine the amount of sugar that should be received not more than 10% of the energy of semi-finished food products (190 kcal), equal to 19 kcal (190 x 10 /100) or equivalent to 4.8 grams of sugar, but the amount of sugar in semi-finished food to enhance the flavor of the food does not require a large amount of sugar. therefore adjusting to the sugar content from the main meal level 5, which determines the sugar value of 0.25 grams per 100 kcal to obtain the sugar content of semi-finished foods. The figure is 0.475 grams and the figure is adjusted according to the nutrition labeling criteria12. Therefore, the sugar content of semi-finished foods is set to be less or equal. 1 gram

5. Sodium The amount of sodium is not more than 1 mg per 1 kcal of energy. Therefore, the amount of sodium is set to be less than or equal to 190 mg.

Food classification criteria according to nutritional standards

Determine the amount of nutrients per serving for a reference serving of semi-finished food12 as follows:

- Instant noodles One reference serving is 50 grams.

- Instant rice porridge and congee One reference serving is 50 grams.

- Instant soups and soups (e.g. concentrated soups, cubes, powders or dry soups, excluding soup cubes). or seasoning powder), one reference serving size is 200 grams (ready to eat).

The criteria for food classification are as follows:

1. Scores are assigned according to the amount of nutrients, divided into 3 levels:

1.1 Standard level means energy content, total fat, saturated fatty acids, sugar and sodium as specified in the energy and nutrients section, equal to 2 points.

1.2 Outlier level means energy content, total fat, saturated fatty acids, sugar and sodium, which are between the standard level and the outlier level, equal to 1 point.

1.3 Extremely low level means energy content, total fat, saturated fatty acids, sugar and sodium are more than or equal to 2 times the standard level, equal to 0. Score

2. Determine the quality of semi-finished food.

A full score of 8 points and food classification criteria are as follows:

grade	score
A	7-8
B	5-6
C	0-4

Table 4 Classification criteria for semi-finished food according to nutritional standards

nutrients	Nutrient content per reference serving*			
	semi-finished food instant noodles instant congee and soup; instant soup and congee;			note
	standard level 2 points	out of range level 1 point	Very out of line 0 points	The energy of semi-finished foods is between 150–<250. kcal per serving reference, if the energy is less than 150 kcal, the market will be prohibited. As for the energy value from 250 kcal up, use the main meal criteria.
Total fat (grams)	≤6	>6-12	>12	
Saturated fatty acids (grams)	≤2	>2-4	>4	
sugar (grams)	≤1	2	>2	
Sodium (mg)	≤190	>190-380	>380	

* One reference serving of instant noodles is 50 grams, instant rice porridge and congee is 50 grams, soup. and semi-instant soups (such as concentrated soups, cubes, powders, or dry soups, excluding soup cubes or seasonings) equal to 200 grams (with Food Quality Interpretation: Grade A = 7-8 points, Grade B = 5-6 points, Grade C = 0-4 points.

Criteria for snack foods

snack

Snacks10 Divided into 5 groups as follows:

Group 1 : Fish Snack, Seaweed

Group 2 : Pounded Pork with Fish Skin

Group 3 : Nuts, Nuts and Seeds

Group 4 : Potato Chips or Crispy Baked or Butter Baked Prawn crackers Seasoned Rice Crackers Corn flakes flavored biscuits or crackers or wafer biscuits filled with filling.

Group 5 : Crispy, Dehydrated Fruits and Vegetables

Energy and Nutrients

Consideration of snack foods takes into account energy, nutrients that increase nutritional value and nutrients that have an adverse effect on health, such as protein, total fat, sugar and sodium. The food per serving is a reference and is a standard amount with details as follows.

1. Energy: Determine the energy received from snack foods not exceeding 100 kilocalories. Therefore, determine the energy content of group 4 snacks (fries, crispy rice, wafers, etc.).) and group 5 (crispy fruits and vegetables) have a value of less than or equal to 100 kcal, while snacks in group 1 (fish strip seaweed), group 2 (braised pork, fish skin) and group 3 (nuts, nuts and seeds) from the Food Composition Table of the Nutritionist and Institute of Nutrition7,8 The average energy values of snacks in group 1, 2 and 3 were 32.80, 88.30 and 166.56 kcal, respectively.

nutritional value and adjusted according to the nutrition labeling criteria. Group 3 (nuts, nuts and seeds) have values less than or equal to 30, 80 and 160 kcal, respectively.

2. Protein: Set protein not less than 12.5% of product energy, equal to 3.1 grams, and adjust the figure according to the nutrition labeling criteria12. Therefore, the protein content of snacks is set to be greater than or equal to 3 grams.

3. Total fat Total fat obtained from snack foods shall not exceed 30% of the product energy for group 1 (fish snacks, seaweed). Total fat was determined by using the average fat values of fish snacks and seaweed from the Food Composition Table database of the Bureau of Nutrition and the National Institute of Nutrition. Nutrition7,8 The fat value was 0.28 g. and adjusted according to the criteria of nutrition labeling12. Therefore, the value is less than or equal to 1 gram for group 2 (smashed pork, fish skin) and group 4 (fries, crispy rice, wafe or etc.) not more than 30% of product energy (100 kcal), equal to 3.33 g and adjusted to be close to the WHO SEARO9 criteria. therefore equal to 2 g for group 3 (nuts, nuts and seeds). Due to the nature of the high fat content of nuts. As a good fat, the no-added fat criterion (except for <0.3% flavoring) applies, as is the Healthier Choice6 criterion and Group 5 (Crispy Fruits and Vegetables) Due to the nature of vegetables and fruits, the amount of fat is low. Therefore, the criterion of no added oil was used (except for flavor <0.3%). Therefore, the total fat content of group 1 snacks (fish strip algae) is less than or equal to 1 g. Group 2 (smashed pork, fish skin) and group 4 (fries, fried rice, crisps, wafers, etc.) less than or equal to 2 g. Group 3 (Nuts, Nuts and Seeds) and Group 5 (Crispy Fruits and Vegetables). et) No refueling criterion applies. (except for seasoning <0.3%)

4. Sugar: Snack foods group 1 (fish snacks, seaweed) and group 4 (potato chips, crispy rice, wafers, etc.) specify sugar. not more than 10% of product energy The mean values were 2.5 g and 0.75 g, respectively, and adjusted according to the nutrition labeling criteria12. Therefore, the value is 2 g and 1 g respectively, which is close to the criteria of WHO SEARO9 for group 2 (smashed pork, fish skin). Sugar is determined by Using the average glycemic index of pounded pork and fish skin snacks from the Food Composition Table database of the Bureau of Nutrition and the Institute of Nutrition7,8 The sugar value was 0.22 g and adjusted according to the nutrition labeling criteria12. Therefore, the value is less than or equal to 1 gram. For group 3 (nuts, nuts and seeds), sugar content is not specified. and considered from the addition of sugar (Added sugar), which is in line with WHO SEARO9 and Healthier choice6 and group 5 (crispy fruits and vegetables) without specifying the amount of water and considering from the addition of sugar (Added sugar), which is in line with WHO SEARO9 criteria. y) and Group 2 (braised pork, fish skin) are less than or equal to 1 g. Group 4 (fries, crispy rice, wafers). et al.) is less than or equal to 2 g. Group 3 (nuts, nuts and seeds) and group 5 (crispy fruits and vegetables).) Use the no added sugar criterion.

5. Sodium Snack Foods Group 1 (fish snacks, seaweed) Group 2 (smashed pork, fish skin) Group 4 (fries, crispy rice, wafers) and Group 5 (crispy fruits and vegetables), the amount of sodium is not more than 1 milligrams per 1 kcal of energy were 30, 80, 100 and 100 milligrams, respectively. For group 3 (nuts, nuts and seeds), the mean sodium of nuts, nuts and seeds without salt in preparation from the Food Composition Table database of the Bureau of Nutrition and the Institute of Nutrition7,8 were equal. with 16.05 milligrams and adjusted to be close to the WHO SEARO 9 criteria, which is equal to 15 grams. Therefore, the sodium content of group 1, 2, 3, 4 and 5 are less than or equal to 30, 80,15, 100 and 100 milligrams, respectively.

Food classification criteria according to nutritional standards

Determine the amount of nutrients per serving of reference snacks12 by group 1 (fish strips, seaweed) equal to 10 grams. M 2 (smashed pork, fish skin) equal to 20 grams, group 3 (nuts, nuts

and seeds), group 4 (potato chips, crispy rice, wafers, etc.) and JO 5 (Crispy Fruits and Vegetables) is equal to 30 grams, which has the food classification criteria as follows:

1. Scores are assigned according to energy and nutrient content, divided into 3 levels:

1.1 Standard level refers to energy content, total fat, sugar and sodium, which have the specified values equal to 2 points.

1.2 Out of range means the energy, total fat, sugar and sodium contents are between The standard level and the extreme level are equal to 1 point.

1.3 Extreme level means the amount of energy, total fat, sugar and sodium is more than or equal to 2 times the standard level. Protein is less than the standard level. equal or equal to half of the standard level equal to 0 points

Except for added sugar (Added sugar), it is determined that no sugar is added equal to 1 point, added sugar is equal to 0 points and group 3 (beans, nuts and seeds) and group 5 (crispy fruits and vegetables) require no oil added. (except for flavoring <0.3%) get 1 point, if add oil more than specified get 0 point.

2. Determine the quality of snack foods. Full scores and food classification criteria are as follows:

Group 1 (fish strips, seaweed), group 2 (smashed pork, fish skin) and group 4 (fries, crispy rice wafers, etc.) Full marks. 10 points and food can be classified as follows:

grade	score
A	8-10
B	6-7
C	0-5

Group 3 (Nuts, Nuts and Seeds) and Group 5 (Crispy Fruits and Vegetables) scored a full score of 8 and can classify foods as follows:

grade	score
A	7-8
B	5-6
C	0-4

Table 5 Criteria for classification of snack foods according to nutritional standards

nutrients	Nutrient content per reference serving*														
	Group 1: Strip fish, algae Fish Snack, Seasoned Fish Chips, Seasoned Squid, Fried or Crispy Seaweed or Seasoned Glaze			Group 2 Shredded Pork with Fish Skin crispy pork, pounded pork, crispy shredded pork, fried fish skin Fried chicken skin, seasoned fish skin, pork crackling			Group 3 Nuts, Nuts and Seeds Nuts such as peanuts, peas, nuts such as cashews, almonds Seeds such as pumpkin seeds, sunflower seeds			Group 4 Potato Chips Rice Crackers Wafer Potato Chips or Butter Crisps, Prawn Crackers, Seasoned Rice Crackers, Seasoned Corn Crisps, Biscuits or Crackers or biscuits, wafer filling			Group 5 Freeze Dried Vegetables and Fruits		
	standard (2 points)	out of criteria (1 point)	very unqualified (0 points)	standard (2 points)	out of criteria (1 point)	very unqualified (0 points)	standard (2 points)	out of criteria (1 point)	very unqualified (0 points)	standard (2 points)	out of criteria (1 point)	very unqualified (0 points)	standard (2 points)	out of criteria (1 point)	very unqualified (0 points)
Energy (kcal)	≤30	>30-60	>60	≤80	>80-160	>160	≤160	>160-320	>320	≤100	>100-200	>200	≤100	>100-200	>200
Protein (g)	≥3	2	≤1	≥3	2	≤1	≥3	2	≤1	≥3	2	≤1	≥3	2	≤1
Total fat (grams)	≤1	>1-2	>2	≤2	>2-4	>4	No oil added (except for Conforms to seasoning <0.3 %)(1 point)		More oil than required (0 points)	≤2	>2-4	>4	No oil added (except for Conforms to seasoning <0.3 %)(1 point)		More oil than required (0 points)
Saturated fatty acids (grams) (SFA)															

Sugar (grams)	≤1	>1-2	>2	≤1	>1-2	>2				≤2	>2-4	>4			
Added sugar (g)							no added sugar (1 point)		add sugar (0 points)				no added sugar (1 point)		add sugar (0 points)
Sodium (mg)	≤30	>30-60	>60	≤80	>80-160	>160	≤15	>15-30	>30	≤100	>100-200	>200	≤100	>100-200	>200

* One reference serving of snacks: Group 1 fish, seaweed, equal to 10 grams, Group 2, pounded pork, fish skin, equal to 20 grams,

Group 3 Nuts, Nuts and Seeds, Group 4 Potato Chips, Crispy Rice, Wafers, and Group 5 Crispy Fruits and Vegetables, equal to 30 grams.

Food Quality Interpretation: Group 1 Fish Snack, Seaweed, Group 2 Pounded Pork, Fish Skin and Group 4 Potato Chips, Crispy Rice, and Wafers: Grade. A = 8-10 points, Grade B = 6-7 points, Grade C = 0-5 points.

Group 3 Nuts, Nuts and Seeds and Group 5 Crispy Fruits and Vegetables: Grade A = 7-8 points, Grade B = 5-6 points, Grade C = 0-4 points.

Food criteria for baked goods, steamed, fried

Baked goods, steamed, fried

Baked goods Steamed Fried10 Divided into 3 groups as follows

Group 1 : Bakery products such as Bread, Brownies, Cookies, Cakes (heavy such as Cheesecake, Fruit Cake) containing 35% or more of fruit, and cupcakes, cream puffs, chiffon sponge cakes, with or without icing or filling). Donuts and muffins, crackers, ice cream cones, pancakes, waffle pies, pastries, with and without filling.

Group 2: Steamed snack products such as steamed buns, steamed dumplings, dim sum

Group 3: Fried dessert products such as quail egg dessert, Khai Hong dessert, Dok Jok dessert, Roti

Energy and Nutrients

Considering baked goods, steamed, fried, considering energy. Nutrients that add nutritional value and nutrients that have an adverse effect on health, such as protein, total fat, sugar, and sodium. standard Details are as follows.

1. Energy: Determine the energy received from baked goods, steamed, fried, not more than 100 kilocalories. Determine the energy content of baked goods, steamed, fried, less than or equal to 100 kcal.

2. Protein Set protein not less than 12.5% of product energy, equal to 3.12 grams, and adjust the number according to the principle of the nutrition label12. Therefore, determine the protein content of baked goods. Steamed and fried is greater than or equal to 3 g.

3. Total Fat: Determine the total fat received from baked goods, steamed, and fried not more than 100%. 30 of product energy (100 kcal) is equal to 3.33 g and adjusted according to the principles of the nutrition label12. equal to or equal to 3 g.

4. Sugar: Specify sugar not more than 10% of product energy (100 kcal), equal to 2.5 grams, adjust the figure to be close to the standard. WHO SEARO9 and principles of nutrition labeling12 Therefore, the sugar content of baked goods, steamed and fried is less than or equal to 3 grams.

5. Sodium Set the sodium value not more than 1 mg per 1 kcal of energy. Therefore, the sodium content of baked goods, steamed and fried shall be less than or equal to 100 mg.

Food classification criteria according to nutritional standards

Determine the nutrient content per serving as a reference serving of baked goods, steamed and fried12, equal to 50 grams, with food classification criteria as follows:

1. Scores are assigned according to energy and nutrient content, divided into 3 levels as follows:

1.1 The standard level means the amount of energy, total fat, sugar, sodium and protein that are specified equal to 2 points.

1.2 Outlier level means energy content, total fat, sugar, sodium and protein with a high value between standard and outlier level equal to 1 point.

1.3 Extremely low level means that energy content, total fat, sugar, sodium are more than or equal to 2 times the standard level, protein content is less than the standard level. or equal to half of the standard level, equal to 0 points

for sugar and sodium Score weighting criteria have been established. The sugar value is multiplied by 2 points and the sodium value is multiplied by 3 points.

2. Determine the quality of food in the category of baked goods, steamed, fried, full scores and food classification criteria as follows:

grade	score
A	13-16
B	10-12
C	0-9

Table 6 Classification criteria for baked goods, steamed and fried foods according to nutritional standards

nutrients	Nutrient content per reference serving*		
	Baked goods such as bread, brownies, cookies, cakes (heavy cakes, cupcakes, eclairs, cream puffs, chiffon Sponge cakes with or without icing or filling), donuts, muffins, pie pastry types with and without filling, crackers Ice Cream Cone, Pancake Snatch, Waffle steamed snacks such as steamed buns, shumai dumplings, and dim sum fried snacks such as quail egg custard snacks, swan egg custard snacks, Dok Jok snacks, Rot		
	standard level 2 points	out of range level 1 point	Very out of line 0 points
Energy (kcal)	≤100	>100-200	>200
Total fat (grams)	≤3	>3-6	>6
sugar (grams)	≤3	>3-6	>6
Sodium (mg)	≤100	>100-200	>200
Protein (g)	>3	2	≤1

*One reference serving is equal to 50 grams, sugar X 2 points, sodium X 3 points.

Food Quality Interpretation: Grade A = 13-16 points, Grade B = 10-12 points, Grade C = 0-9 points.

Criteria for desserts and ice cream

sweets and ice cream

Confectionery and ice cream12,13 Divided into 2 groups as follows

Group 1 : Desserts divided into

1.1 Thai desserts such as custard, foi thong, thong yip, thong yod, jackfruit candy, cornmeal, steamed pumpkin mixed with coconut. Boiled Green Beans with Sugar Egg Curry Desserts, Pumpkin Desserts, Banana Desserts, Sticky Desserts, Luk Choob, Bua Loy Taro, etc.

1.2 Other desserts such as chocolate and cocoa, custard, pudding, instant agar, jelly, etc.

Group 2: Ice cream such as modified ice cream, mixed ice cream, ice cream, sundae, etc.

Energy and Nutrients

Consideration of sweets and ice cream. consider energy Nutrients that add nutritional value and nutrients that have an adverse effect on health, such as protein, total fat, sugar, and sodium. The standard level is detailed as follows:

1. Energy Specify the energy received from food, desserts and ice cream not more than 100 kilocalories. Therefore, set the energy from desserts and ice cream to less than or equal to 100. kilocalories

2. Protein: The protein content is not less than 12.5% of product energy (100 kcal), equal to 3.1 grams, adjusted according to the rules. Nutrition Labeling12 Therefore, determine the amount of protein in the dessert group. is greater than or equal to 3 g.

3. Total fat Total fat content must not exceed 30% of product energy. (100 kcal) was 3.3 g and adjusted according to the nutrition labeling guidelines12. Therefore, the total fat content of desserts and ice cream was Less than or equal to 3 g.

4. Sugar: Set the sugar content not more than 10% of product energy (100 kilocalories), equivalent to 2.5 grams of sugar. 1.1) and ice cream (Group 2) cannot be made. The maximum sugar content is set to not exceed 10 grams. Therefore, the sugar content of Thai desserts (Group 1.1) and ice cream (Group 2) is less than or equal to 10 g. For other sweets (Group 1.2), the figure is adjusted in accordance with WHO SEARO9 and Regulations on nutrition labeling12 Therefore, the sugar content of other desserts (Group 1.2) is set to be less than 3 grams.

5. Sodium: Set the amount of sodium not more than 1 milligram per 1 kcal of energy, which will get the amount of sodium equal to 100 milligrams, but the amount is higher than the average sodium of the products from Nutritional Value Database (Food Composition Table) of the Bureau of Nutrition and the Institute of Nutrition7,8 Therefore, the proportion of energy and sodium from ice cream criteria of WHO SEARO9 is used to obtain 0.43 mg of sodium per 1 kcal of energy, which is the energy of desserts and ice cream equal to 100 kcal. contains 43 milligrams of sodium and has been adjusted according to the nutrition labeling guidelines12. Therefore, the sodium content of desserts and ice cream is set. is less than or equal to 45 milligrams

Food classification criteria according to nutritional standards

Determine the amount of nutrients per serving as a reference of desserts and ice cream12 by group 1 dessert equal to 50 grams and group 2 ice cream equal to 80 grams, which has the following food classification criteria:

1. Scores are assigned according to the amount of nutrients, divided into 3 levels:

1.1 Standard level refers to energy content, total fat, sugar and sodium, which have the specified values equal to 2 points.

1.2 Outlier level means energy content, total fat, sugar and sodium, which are between the standard level and the extreme level, equal to 1 point.

1.3 Extreme level means the amount of energy, total fat, sugar and sodium is more than or equal to 2 times the standard level. Protein is less than the standard level. or equal to half of the standard level, equal to 0 points

For sugar and sodium, scores were weighted. The sugar value is multiplied by 2 points and the sodium value is multiplied by 3 points.

2. Determine the quality of desserts and ice cream. The full score and food classification criteria are divided into 2 groups as follows:

Group 1.1 Thai desserts scored a full score of 16 and can be classified as follows:

grade	score
A	13-16
B	10-12
C	0-9

Group 1.2 Other desserts and Group 2 Ice cream scored a full score of 10 and can be classified as follows:

grade	score
A	8-10
B	6-7
C	0-5

Table 7 Classification criteria for desserts and ice cream according to nutritional standards

nutrients	Nutrient content per reference serving*								
	group 1 sweets						Group 2 Ice Cream		
	1.1 Thai desserts such as custard, foi thong, thong yip, thong yod, jackfruit seed custard, lok plup, wheat dessert, egg custard dessert, pumpkin dessert, banana dessert, sticky dessert, taro dumpling, mung beans boiled in sugar. poop Steamed Pumpkin with Coconut			1.2 Other sweets such as chocolate and cocoa confectionery Custard Pudding instant jelly, jelly dessert			such as modified ice cream ice cream ice cream mix ice cream sundae		
	standard level 2 points	out of range level 1 point	Very out of line 0 points	standard level 2 points	out of range level 1 point	Very out of line 0 points	standard level 2 points	out of range level 1 point	Very out of line 0 points
Energy (kcal)	≤100	>100-200	>200	≤100	>100-200	>200	≤100	>100-200	>200
Total fat (grams)	≤3	>3-6	>6	≤3	>3-6	>6	≤3	>3-6	>6
Sugar (grams)	≤10**	>10-20**	>20**	≤3	>3-6	>6	≤10	>10-20	>20
Sodium (mg)	≤45**	>45-90**	>90**	≤45	>45-90	>90	≤45	>45-90	>90
Protein (g)	≥3	2	≤1	≥3	2	≤1	≥3	2	≤1

*Reference serving size: Group 1 Dessert equals 50 grams Group 2 Ice Cream equals 80 grams

**Thai desserts are weighted for sugar X 2 points, sodium X 3 points.

Food Quality Interpretation

Group 1.1 Thai desserts: Grade A = 13-16 points, Grade B = 10-12 points, Grade C = 0-9 points.

Group 1.2 Other desserts and Group 2 Ice cream: Grade A = 8-10 points, Grade B = 6-7 points, Grade C = 0-5 points.

food and beverage criteria

drink

Beverages10,14,15 Divided into 4 groups, excluding milk drinks as follows:

Group 1: 100% vegetable and fruit juices

Group 2: Drinks made from plants, vegetables, fruits, soft drinks, flavored drinks and herbal drinks.

Group 3 : Instant Tea instant coffee Chocolate, Cocoa, Malt Extract

Group 4 : Cereal beverages and soy milk

Energy and Nutrients

Consideration of food and drink consider energy Nutrients that increase nutritional value and nutrients that have an adverse effect on health are dietary fiber, sugar, sodium, and total fat. The amount of energy and nutrients per serving is specified. The reference and standard quantity are as follows:

1. Energy, although the energy received from food and beverages is not more than 40 kcal, but the energy of beverages is higher, both from natural fat and sugar content. high and from the production process Therefore, the amount of energy has been adjusted as follows.

- Group 1 (100% vegetable and fruit juices) Group 2 (drinks made from vegetables and fruits, soft drinks, flavored soft drinks and herbal juices)) and group 4 (cereal beverages and soy milk). Average energy values of beverages group 1, group 2, and group 4 from the Food Composition Table of the Bureau of Nutritional Value Database. Nutrition and Institute of Nutrition7,8 were 102.4, 84, 150.9 kcal, respectively, and the energy value was adjusted to be close to the Healthier choice6 criteria when calculated per unit. The reference consumption is 200 ml. Set the amount of energy in group 1, 2 and 4 to be less than or equal to 80 kcal.

- Group 3 (Ready tea instant coffee chocolate, cocoa, malt extract beverages) compared with the average energy values of ready-to-eat tea and coffee drinks. from the Food Composition Table of the Bureau of Nutrition7 When calculated per serving, reference 200 ml. is equal to 93.84 kcal and Healthier Choice6 criterion is 120 kcal. Comparable to the Food Composition Table and nutrition labeling criteria12, therefore, the energy group 3 content is lower than or equal to 90 kcal

2. Sugar: the sugar content is not more than 10% of the product's energy. The amount of sugar was adjusted as follows:

- Group 1 (100% fruit and vegetable juices) sugar content of 10% of product energy (80 kcal) is equal to 2 grams. Natural wood is higher in sugar. And the maximum amount of sugar in beverages must not exceed 10 grams. Therefore, the sugar content of Group 1 is set to be less than or equal to 10 grams

- Group 2 (beverages from plants, vegetables, fruits, soft drinks, flavored drinks and herbal drinks) etc.) The sugar content of 10% of product energy (80 kcal) is equal to 2 grams and group 3 (instant tea, instant coffee, shock drinks). chocolate, cocoa, malt extract) sugar content at 10% of product energy (90 kcal), the sugar content is 2.25 g, and the figure is adjusted closer to It is

close to the WHO9 criteria and the nutrition labeling criteria12. Therefore, the amount of group 2 and 3 sugars is less than or equal to 4 grams.

- Group 4 (cereal beverages and soy milk), the sugar content is set at 10% of product energy (80 kcal), which is equal to 2 g. Helps to improve the taste of the drink. causing the sugar content to be higher than other groups And the maximum amount of sugar in beverages must not exceed 10 grams. Therefore, the sugar content of Group 4 is set to be less than or equal to 10 grams

3. Sodium The amount of sodium is not more than 1 mg per 1 kcal of energy as follows:

- Group 1 (100% vegetable and fruit juices) Group 2 (beverages from plants, vegetables, fruits, soft drinks, flavored soft drinks, and herbal juices) and group 4 (cereal beverages and soy milk) has an energy value of 80 kilocalories. Therefore, the amount of sodium group 1, 2 and 4 is set to be less than or equal to 80 milligrams.

- Group 3 (Ready tea instant coffee chocolate, cocoa, malt extract) has an energy value of 90 kcal, so the amount of sodium group 3 is set to be less than or equal to 90 mg

4. Dietary fiber Determine the amount of dietary fiber for specific group 1 (100% vegetable and fruit juices) based on the Healthier choice6 criteria when calculated per 200 ml. and adjusted according to the nutrition labeling criteria12. The amount of dietary fiber in group 1 is greater than or equal to 2 grams.

5. Total fat Total fat content must not exceed 30% of product energy. The total fat content was adjusted as follows:

- Group 3 (Ready tea instant coffee chocolate, cocoa, malt extract) fat content of 30% of product energy (90 kcal), which is 3 g, and the fat value was adjusted close to This is close to the Healthier choice6 criteria and the nutrition labeling criteria12. Therefore, the total fat content of 3 is less than or equal to 2 g.

- Group 4 (cereal beverages and soy milk) fat content of 30% of product energy (80 kcal) is 2.67 g. And the average fat content of soybean milk from the Food Composition Table database of the Bureau of Nutrition and the Institute of Nutrition7,8 was 6.44 g, which was low. than the Healthier choice6 (7 grams) criterion. Therefore, the average fat value from the Food Composition Table was used, adjusted according to the criteria. Nutrition Labeling12 Therefore, the total fat content in Group 4 is less than or equal to 6 grams.

Food classification criteria according to nutritional standards

Determine the amount of nutrients per serving of a reference drink12 equal to 200 milliliters, with food classification criteria as follows:

1. Scores are assigned according to energy and nutrient content, divided into 3 levels as follows:

1.1 The standard level means the amount of energy, total fat, sugar, sodium and dietary fiber as specified, equal to 2 points.

1.2 Outlier level means energy content, total fat, sugar, sodium and dietary fiber with a high value between standard and outlier level equal to 1 point.

1.3 Extreme level means the amount of energy, total fat, sugar, and sodium is greater than or equal to 2 times the standard level. fiber content is less than or equal to half of the standard level equal to 0 points

2. Determine the quality of food and beverages. Full scores and food classification criteria are as follows:

Group 1 100% vegetable and fruit juices, Group 3 tea, instant coffee, group 4 Cereal beverages, soybean milk, scored a full score of 8 and classified the foods as follows.

grade	score
A	7-8
B	5-6
C	0-4

Group 2: Drinks made from vegetables, fruits, soft drinks, flavored soft drinks, and various herbal juices, get a full score of 6, and foods can be classified as follows.

grade	score
A	5-6
B	4
C	0-3

Table 8 Criteria for food and beverage classification according to nutritional standards

nutrients	Nutrient content per reference serving*											
	Group 1 100% vegetable and fruit juices			Group 2: Drinks made from vegetables Fruits, soft drinks, sweet drinks with different flavors and various herbal juices			Group 3 Instant Tea instant coffee Chocolate Cocoa Malt Extract			Group 4 Cereal drinks and soy milk		
	standard level 2 points	out of range level 1 point	Very out of line 0 points	standard level 2 points	out of range level 1 point	Very out of line 0 points	standard level 2 points	out of range level 1 point	Very out of line 0 points	standard level 2 points	out of range level 1 point	Very out of line 0 points
Energy (kcal)	≤80	>80-160	>160	≤80	>80-160	>160	≤90	>90-180	>180	≤80	>80-160	>160
sugar (grams)	≤10	>10-20	>20	≤4	>4-8	>8	≤4	>4-8	>8	≤10	>10-20	>20
Total fat (grams)							≤2	>2-4	>4	≤6	>6-12	>12
Sodium (mg)	≤80	>80-160	>160	≤80	>80-160	>160	≤90	>90-180	>180	≤80	>80-160	>160
Dietary fiber (grams)	≥2	1										

powdered drink Consider the classification of beverages based on nutritional standards for formulas that are brewed with water only.

*One reference serving is 200 ml.

Interpretation of food quality results:

Group 1 100% vegetable and fruit juices, Group 3 tea and coffee mixes, Group 4 cereal drinks. and soy milk: Grade A = 7-8 points, Grade B = 5-6 points, Grade C = 0-4 points.

Group 2 Drinks from vegetables, fruits, soft drinks, flavored soft drinks and herbal drinks: Grade A = 5-6 points, Grade B = 4 points, Grade C = 0 -3 points

Criteria for dairy and milk products

milk and milk products

Milk and milk products16 means processed products obtained from cow's milk, divided into 3 groups as follows:

Group 1: Plain flavored milk, flavored milk, fermented milk

Group 2 : Semi-solid, semi-liquid and ready-to-drink yogurt

Group 3: Unsweetened Condensed Milk (Unsweetened Condensed Milk)

Energy and Nutrients

Consideration of dairy foods and milk products. consider energy Nutrients that add nutritional value and nutrients that have an adverse effect on health, such as protein, calcium, vitamin B2, total fat, sugar and sodium. is a standard quantity

Energy and nutrient content of milk and milk products. Determined according to the Food Choice Application Development Meeting held on November 2, 2020 as follows:

1. Energy Determine the energy content of Group 1 Plain milk, flavored milk, fermented milk, Group 2 Semi-solid and ready-to-drink yogurt, Group 2. M 3 Unsweetened condensed milk (evaporated condensed milk) is less than or equal to 140 kcal.

2. Total fat: Determine the total fat content of Group 1 and Group 3 to be less than or equal to 8 grams. semi-solid, semi-liquid and ready-to-drink varieties The total fat content prescribed was higher than the average fat content of natural yoghurt from the National Institute of Nutrition's Food Composition Table8 database. By comparing one reference serving unit, it will be 4.56 grams, then choose to use information from the nutritional value database (Food Composition Table) and adjust the numbers according to the criteria. nutrition labeling products12. Set the total fat content of group 2 to be less than or equal to 4 grams.

3. Sugar According to the Food Choice Application development meeting, the amount of sugar was not specified, but the average sugar content of natural flavored milk. Natural flavored partly skimmed milk (Group 1) and natural flavored yoghurt (Group 2) from the National Institute of Nutrition's Food Composition Table. 8 equal to 9.06, 11.19 and 8.88 grams, respectively, 7,8 group 1 (flavored milk, flavored milk, fermented milk) and group 3 (unsweetened condensed milk). Choose the sugar content of partly skimmed milk. and adjusted the numbers according to the criteria for the nutrition labeling12 for all 3 groups, so the sugar content of Group 1 and Group 3 was lower. or equal to 11 g and group 2 is less than or equal to 9 g.

4. Protein The average protein content of milk and natural yoghurt from the Food Composition Table database of the Bureau of Nutrition and the Institute of Nutrition were 6.40 and 6.77 g7, 8 respectively The numbers were adjusted according to the nutrition labeling criteria12, so the protein content of group 1-3 was greater than or equal to 6 g.

5. Calcium Average calcium content of milk and natural yogurt. From the Food Composition Table database of the Bureau of Nutrition and the Institute of Nutrition, equal to 220 and 192 mg7,8 respectively. Representing 28% and 24% of calcium according to the list of recommended daily intakes for Thai people aged 6 years and over (Thai Recommended Daily Intakes : Thai RDI)12, respectively, the numbers were adjusted according to the nutrition labeling criteria12, so the calcium

content of group 1 and group 3 was greater than or equal to with 25% of the Thai RDI and group 2 is greater than or equal to 20% of the Thai RDI.

6. Vitamin B2 The average vitamin B2 content of milk and natural yoghurt from the Food Composition Table database of the Bureau of Nutrition and the Institute of Nutrition was 0.43 and 0.34 milligrams, 7,8 respectively, representing 25% and 20.29% of the recommended daily intake of vitamin B2 for Thai people aged 6 years and over (Thai RDI)12, respectively, the numbers were adjusted according to the nutrition labeling criteria.12 Therefore, the vitamin B2 content of Group 1 and Group 3 was greater Equal to 25% of the Thai RDI and Group 2 is greater than or equal to 20% of the Thai RDI.

7. Sodium Determine the amount of sodium for specific group 2 (yogurt). Average sodium content of natural flavored yoghurt from the Food Composition Table of the Bureau of Nutrition and Institute of Nutrition, equal to 94.5 milligrams7,8, adjusting the figure according to the nutrition labeling criteria12 Therefore, the amount of sodium in group 2 is determined to be less than or equal to 95 milligrams.

Food classification criteria according to nutritional standards

The reference amount of nutrients per serving of milk and milk products12 is determined. Group 1 equals 200 ml, group 2 equals. 150 ml/g, group 3 equals 100 ml, which has the following food classification criteria:

1. Scores are assigned according to energy and nutrient content, divided into 3 levels:

1.1 Standard level means sugar, protein, calcium, vitamin B2 and sodium content as specified equal to 2 points, except total energy and fat equal to 1 point.

1.2 Out-of-the-box means sugar, protein, calcium, vitamin B2 and sodium contents that are 1 point between the standard level and the outlier level, with the exception of energy. and Total fat equals 0.5 points.

1.3 Extremely low level means energy content, total fat, sugar and sodium are more than or equal to 2 times of the standard level. Protein, calcium, vitamin B2 are low. less than or equal to half of the standard, equal to 0 points

2. Determine the score of dairy foods and milk products. Full scores and food classification criteria are as follows:

Group 1 Plain Flavored Milk, Flavored Milk, Fermented Milk and Group 3 Unsweetened Condensed Milk (Unsweetened Condensed Milk) got a full score of 10 and classified foods as follows.

grade	score
A	8-10
B	6-7
C	0-5

Group 2: Semi-solid, semi-liquid and ready-to-drink yogurt, scored a full score of 12, and food could be classified as follows:

grade	score
A	10-12
B	8-9

C	0-7

Table 9 Classification criteria for milk and milk products according to nutritional standards

nutrients	Nutrient content per reference serving*								
	Group 1 Plain flavored milk, flavored milk, flavored milk			group 2 Semi-solid, semi-liquid and ready-to-drink yogurt			group 3 Unsweetened condensed milk (evaporated condensed milk)		
	standard 1 point	out of criteria 0.5 points	very unqualified 0 points	standard 1 point	out of criteria 0.5 points	very unqualified 0 points	standard 1 point	out of criteria 0.5 points	very unqualified 0 points
Energy (kcal)	≤140	>140-280	>280	≤140	>140-280	>280	≤140	>140-280	>280
Total fat (grams)	≤8	>8-16	>16	≤4	>4-8	>8	≤8	>8-16	>16
	standard level 2 points	out of range level 1 point	Very out of line 0 points	standard level 2 points	out of range level 1 point	Very out of line 0 points	standard level 2 points	out of range level 1 point	Very out of line 0 points
sugar (grams)	≤11	>11-22	>22	≤9	>9-18	>18	≤11	>11-22	>22
Protein (g)	≥6	4-5	≤3	≥6	4-5	≤3	≥6	4-5	≤3
calcium (% of Thai RDI)	≥25	15-24	<15	≥20	10-19	<10	≥25	15-24	<15
Vitamin B2 (% of Thai RDI)	≥25	15-24	<15	≥20	10-19	<10	≥25	15-24	<15
Sodium (mg)	natural	natural	natural	≤95	>95-190	>190	natural	natural	natural

* One reference serving: Group 1 milk and dairy products equals 200 ml, Group 2 solid, semi-solid and ready-to-eat yogurt. drinking water equal to 150 ml/g

Group 3 unsweetened condensed milk (evaporated condensed milk) equal to 100 milliliters.

Interpretation of food quality results: Group 1 plain flavored milk, flavored milk, fermented milk and group 3 unsweetened condensed milk (condensed milk) Grade A = 8-10 points, grade. B = 6-7 points, C grade = 0-5 points

Group 2: Semi-solid and ready-to-drink yogurt, grade A = 10-12 points, grade B = 8-9 points, grade C = 0-7 points.

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Appendix

Prohibited food for marketing

Candy

Definition: A product for chewing or chewing that contains any flavoring, contains sugar as the main ingredient. and may or may not contain other ingredients for flavoring (Notification of the Ministry of Public Health (No. 228) B.E. 2544 regarding Chewing Gum and Candy)1

Ingredients : Sweeteners flavoring or flavoring agents, coloring agents, etc. for sweeteners Including sugar, glucose syrup, as well as sugar alcohols such as sorbitol, mannitol, which will affect the sweetness and clarity of the candy. with candy ingredients hard candies

- Traditional stew case Contains 70 parts of sugar mixed with 30 parts of glucose syrup.

- In case of simmering under vacuum Contains 60 parts of sugar mixed with 40 parts of glucose syrup. chewy confections) will add fat and milk solids to mix with sugar and glucose syrup2

Consumer Behavior: Children aged 2-18 years eat candy quite often and in large quantities. From a survey of food consumption of Thai people The 4th Survey of Thai People's Health by Physical Examination 2008-2009 found that children aged 2-14 years ate candy/chocolate almost every day. 15.8 and 19.2 percent of them every day. The eating frequency of children aged 2-5 years and 6-14 years were similar3. and food consumption data of Thailand National Bureau of Agricultural Commodity and Food Standards in 2016 found that children aged 3-5.9, 6-12.9, 13-17.9 years old ate candy, an average amount of 11.90, 15.62, 15.87 (grams/person consumption/day) respectively, and the 97.5th percentile (eater only) of children aged 3-5.9, 6-12.9, 13-17.9 years were 32, 37. and 37 (g/person/day) respectively4 or about 5-6 tablets5

Health Effects: Consumption of sugar-based candy will cause adverse health effects as follows:

1. Dental caries occurs when the sugars in food are rapidly converted to acid by the action of bacteria on the plaque on the surface of the teeth. Every time sugar is consumed, there is a loss of enamel calcium and phosphate, leading to tooth decay6, according to a review of longitudinal literature. Longitudinal studies and a systematic review found that children who ate candy more than once a week had an increased risk of tooth decay. in the upper right molar tooth and lower left and the permanent teeth were the upper left molars with hazard ratios of 6.83, 8.18 and 3.13, respectively7.

2. Chronic Non-communicable Diseases Sugar (sucrose) and fructose affect the increase in triglyceride levels. (Triglyceride; TG) after consuming food due to the production of more TG in the liver and at the same time reducing the activity of lipoprotein lipase in fat cells Which plays a role in eliminating TG, increasing the risk of diabetes due to insulin resistance. Hypertension5 In addition, consumption of chocolate candies increases the intake of saturated fatty acids from cocoa-based chocolate. and ingredients from milk and cream. Resulting in high fat content8

3. Malnutrition nutritional value of candy protein content found Vitamins and minerals that are important to the growth of children, such as vitamin A, vitamin B1, vitamin B2, vitamin C, iron, calcium, are so small9 that they are considered inadequate. nutrition Children who regularly consume large amounts there is a risk of malnutrition

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sweetened condensed milk/sweetened condensed creamer

Definition: sweetened condensed milk according to the Notification of the Ministry of Public Health No. 350 B.E. 25561 regarding cow's milk, stated that

Condensed milk means a product obtained by evaporating raw cow's milk to remove some of the water. And may also add sugar or any other substance that is a component of milk. Sweetened Condensed Whole Milk Milk solid content not less than 28% by weight, milk fat content not less than 8% by weight, sweetened condensed partly skimmed milk. Milk solid content not less than 24% by weight. Milk fat content not less than 1% by weight. Sweetened condensed skimmed milk. not less than 24% by weight, butter fat not less than 1% by weight

sweetened condensed creamer According to the Notification of the Ministry of Public Health (No. 352) B.E. 2556, Subject: Milk products must have standard quality. Must have total milk solid content not less than 82%. Sweetened condensed creamer. Contains 5-6% of milk content with palm oil as an ingredient. Use food additives to obtain a viscous consistency similar to that of sweetened condensed milk.

Consumption behavior: According to the food consumption survey of the National Bureau of Agricultural Commodity and Food Standards in 2016, it was found that almost half of children aged 3-5.9, 6-12.9 and 13 -17.9 years old consumed 44.9%, 49.3% and 47.5% of sweetened condensed milk, respectively. The amount of sweetened condensed milk consumed The mean values were similar in the 3 age groups, 16.9, 17.2 and 18.0 g/person/day when considering the Percentile dose of 97.5, equal to 34 g/person/day for all 3 a. age group 4

Health Effects : Based on the examination of the components in sweetened condensed milk. sweetened condensed creamer that are sold in the market, it was found that most of them consisted of 47–49 percent sugar, 8–10 percent walnut oil, 3.6–14 percent skimmed milk powder, thus affecting health as follows:

1. Dental caries occurs when the sugars in food are rapidly converted to acid by the action of bacteria on the plaque on the tooth surface. Every time sugar is consumed, there is a loss of calcium and phosphate of tooth enamel, leading to tooth decay5.

2. Chronic non-communicable diseases Sugar affects the increase in triglyceride levels. (Triglyceride; TG) after consuming food due to the production of more TG in the liver and at the same time reducing the activity of lipoprotein lipase in fat cells Which plays a role in eliminating TG, increasing the risk of diabetes due to insulin resistance. and high blood pressure 5

3. Malnutrition of children Nutritional value of sweetened condensed milk Sweetened condensed non-dairy creamer per 1 reference serving found protein, vitamins and minerals that are important for children's growth. such as vitamin A, vitamin B1, vitamin B2, vitamin C, iron, calcium in small amounts, but high in sugar and fat6 if children consume regularly in large amounts There is a risk of malnutrition especially in children under 5 years7,8 and being overweight has an effect on the incidence of obesity and non-communicable diseases. chronic screen in the future

4. Reduce the efficiency of the immune system Getting more sugar and fat than is necessary. such as the consumption of sweetened condensed milk Rapidly elevates blood insulin levels, T cells and anti-inflammatory agents decrease. This induces inflammation that affects overall immunity9.

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Caffeinated beverages (energy drink)

Definition: beverages containing caffeine (Energy drinks) are classified as beverages in sealed containers according to the Notification of the Ministry of Public Health (No. 356) B.E. 25561 regarding beverages in sealed containers. assign Beverages containing or made from ingredients other than fruit. whether or not they contain carbon dioxide or oxygen Naturally caffeine-containing flavoring agents are used. The amount of caffeine must not exceed 15 milligrams per 100 milliliters. On the amendment to the formulation of beverages containing caffeine has issued an order beverages containing caffeine as an ingredient in an amount not exceeding 50 milligrams per package

Consumption behavior: from food consumption data of Thailand. by the National Bureau of Agricultural Commodity and Food Standards B.E. were 0.2, 0.9 and 6.6 percent, respectively, with the average drinking volume being 64.4, 145.6 and 147.3 ml/person/day, respectively. Energy drink increased with increasing age of children when considering drinking amount of the 97.5 percentile was 75.0, 200 and 150 ml per person per day, respectively. which increased slightly except for the age group of 6-12.9 years which increased quite significantly.

Health Effects : Caffeinated Drinks (Energy drinks) are mainly composed of substances that stimulate the nervous system, such as caffeine, taurine, carnitine and guana. 4 In addition, energy drink nutrition label information distributed in Thailand The sugar content is in the range of 0.5-24 grams per package (95-170 milliliters). Based on a systematic review and meta-analysis. in international academic journals showed that beverages containing caffeine (energy drinks) affect the body, including

1. Cardiovascular system This results in an increase in systolic blood pressure and diastolic blood pressure5, increasing the heart rate. (tachycardia) and chest pain6

2. Digestive system Causes stomach pain, loss of appetite and flatulence6

3. Nervous system and brain Headache, dizziness, and tremor6

4. Adverse health behaviors and mental health resulting in attention deficit hyperactivity disorder Hyperactivity, irritability, tiredness,7 drug addiction, violent behavior such as aggressive, bullying victims,8 and drinking more than four times. per week will result in insomnia and may have psychiatric symptoms9

In addition, the Notification of the Ministry of Public Health (No. 402), B.E. Children and pregnant women should not drink. An international organization, the American Beverage Association (ABA), recommends not marketing energy drinks to underage children. under the age of 12, and energy drink trade should not be promoted among primary and secondary school children11. which complies with WHO-WPRRO recommendations. Has prohibited the marketing of energy drinks. without taking into account food classification criteria12

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sugar substitute sweetener (Non-sugar sweeteners)

Definition: Sweeteners, artificial sugar, or sweeteners used to replace sugar are a group of objects or substances that have a sweet flavor used in cooking instead of sugar. Gives little energy or doesn't give energy. Currently, eight synthetic sweeteners (aspartame, cyclamate, saccharin, acesulfame potassium, sucralose, neotame, alitame and advantame) have been confirmed for their safety. Safe to use in food Three natural sugar substitutes (thaumatin, steviol glycosides and Luo han guo extract

or Monkfruit extract) are safe and approved for use in food in many countries1. and low energy sweeteners Sugar alcohols such as sorbitol, mannitol, lactitol and isomalt2

health effects

1. Chronic non-communicable diseases Sugar substitute sweeteners increase the risk of developing chronic non-communicable diseases as does sugar intake. This is because artificial sweeteners encourage overeating. and can change the microbiome of the eater causing satiety to decrease Changes in glucose homeostasis Affects weight gain and metabolic syndrome3-5 Decreased secretion of the hormone GLP-1 (Glucagon like peptide 1) leads to impaired glycemic control. risk of chronic non-communicable diseases6. It was also found that

Sugar substitute sweeteners cannot be used as a weight loss strategy for obese children7.

2. Addicted to sweet taste Excessive consumption of sweet foods and beverages by children Even if using non-caloric artificial sweeteners May affect sweet taste preferences until adulthood4 and continues to cause children to consume other sweet foods and beverages that provide energy. risk of malnutrition

However, the Institute of Medicine (IOM), USA, recommends that More research is needed on its efficacy for weight management. and safety implications of artificial sweeteners in childhood or adolescence4 According to the American Academy of Pediatrics, the study of artificial sweeteners for use in children is still small. and should not be an integral part of a child's diet4. WHO Nutrient Profile Model for South-East Asia Region) has defined food products that contain artificial sweeteners. Do not market2

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Order to appoint a committee to prepare criteria for classifying foods according to nutritional standards

copy

Order of the Department of Health

No. 450/2564

Subject: Appointment of a committee to classify foods according to nutritional standards

The prevalence of chronic non-communicable diseases (NCDs) tends to increase. as a result of being overweight and obese. The key factor is diet-related, i.e., the consumption of foods high in sugar, salt, and fat. Therefore, it is necessary to create an environment conducive to good health by establishing food classification criteria according to nutritional standards (Nutrient Profile) as a tool. in controlling food and beverage marketing that affects on children's health This leads to the promotion of healthy food consumption and reduction of the consumption of unhealthy food.

In order to determine criteria for food classification according to nutritional standards in line with the knowledge of food and current nutrition And it is appropriate to control the marketing of food and beverages that affect children's health. with elements Duties and powers are as follows:

Component

1. Director-General of the Department of Health		consultant
2. Mr. Sarawut Boonsuk, Deputy Director General of the Department of Health		consultant
3. Director of the Bureau of Nutrition	Department of Health	chairman
4. Mrs. Suchit Saleephan	pensioner	director
5. Associate Professor Ladda Mohsuwan	pensioner	director
5. Associate Professor Umaporn Suthat Worawut	pensioner	director
7. Associate Professor Prapasri Puwasathien	pensioner	director
8. Associate Professor Prapasri Sirijakrawan	pensioner	director
9. Associate Professor Rewadee Jongsuwat	Faculty of Public Health Mahidol University	director
10. Associate Professor Wantanee Kriengsinyot	Institute of Nutrition Mahidol University	director
11. Assistant Professor Uraiporn Jitjang	pensioner	director
12. Mrs. Pattira Yinglertratanakul	Specialist medical scientist Bureau of Nutrition	director

13. Mrs. Kan Natcha Soiphet	Specialist nutritionist Bureau of Nutrition	director
14. Ms. Chaniya Thongmon	Specialist nutritionist Bureau of Nutrition	director
15. Ms. Patamaporn Aksorn	medical scientist, professional Bureau of Nutrition	director
16. Ms. Wannachanok Boonchu	medical scientist, professional bureau of nutrition	director
17. Mr. Thiraphat Atwinittrakarn	medical professional Bureau of Nutrition	director
18. Ms. Nattaya Angkanawin	nutritionist bureau of nutrition	director
19. Ms. Thiporndee Kongsuwan	Operational nutritionist Bureau of Nutrition	director
20. Ms. Wipasri Suwannaphol	Operational nutritionist bureau of nutrition	director
21. Miss Areeya Kuno	Operational nutritionist bureau of nutrition	director
22. Ms. Waraporn Jit-aree	Practitioner Public Health Academician Bureau of Nutrition	director
23. Mrs. Nuttawan Chaolilitkul	Public Health Specialist (Nutrition) Bureau of Nutrition	director secretary
24. Miss Nichaphan Thirakomonpong	medical scientist Bureau of Nutrition	director and assistant secretary
25. Miss Jairak Loisongkroh	Operational nutritionist Bureau of Nutrition	director and assistant secretary
26. Ms. Anchalee Sirikanchanaroj	Operational nutritionist Bureau of Nutrition	director and assistant secretary
27. Ms. Kulthida Rakklad	Operational nutritionist Bureau of Nutrition	director and assistant secretary

duties and powers

1. Set criteria for food classification according to nutritional standards.
2. Determine criteria for controlling the marketing of food and beverages that affect children's health.
3. Prepare a guide to classify foods according to nutritional standards.
4. Prepare a manual for food classification according to nutritional standards for entrepreneurs.
5. Perform other duties as assigned.

However, from now onwards

Ordered on August 9, 2021

(Mr. Suwanchai Wattana Yingcharoenchai),

Director-General of the Department of Health