

## Food Labeling Systems in Japan: Nutrition and Health Claims

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**Summary** Japan is one of the countries with the highest life expectancy in the world, and maintaining good health is the key component to extend healthy life expectancy. According to World Health Organization, self-care is the ability to promote health, prevent disease, and maintain health. Food labels play an important role in healthy dietary habits for self-care. Food labels comprise nutrition claims and health claims. In Japan, the nutrition component exhibits the contents of energy, protein, fat, carbohydrates, and salt equivalent, which are mandatory, and saturated fat and dietary fiber, which are recommended. On the other hand, the health portion exhibits health maintenance and health promotion by nutrients/ingredients in foods. Under the Food Labeling Act, foods allowed to display health claims, are specified as “Foods with Health Claims” in Japan. The Consumer Affairs Agency reported that most consumers could not utilize food labels, even though the nutrition label serves as a parameter for a healthier food choice. In this regard, front-of-pack labels (FOPLs), are a beneficial tool which encourages people to choose healthier foods, and conduct self-care. However, FOPLs is still unfamiliar in Japan, so we have to investigate which nutrients and which type of FOPLs are the best for Japanese people. In addition to FOPL promotion, education is important to get consumers using food labels for extending their healthy life expectancy.

**Key Words** Food label, Front-of-pack labels, Foods with Health Claims, Healthy life expectancy, Nutrient

Japan is one of the countries with the highest life expectancy in the world, and life expectancy was 81.64 y in men, and 87.74 y in women in 2021. However, there is a gap between life expectancy and healthy life expectancy, which is almost 9 y in men and 12 y in women. The Japanese government encourages Japanese people to promote self-care and self-medication to shorten this gap. WHO defined self-care as the ability of individuals, families and communities to promote health, prevent disease, maintain health, and cope with illness and disability with or without the support of a healthcare provider (1). The scope of self-care includes health promotion; disease prevention and control; self-medication; providing care to dependent persons; seeking hospital/specialist/primary care if necessary; and rehabilitation, including palliative care. The essential part of self-care is to keep nutrition status in good condition. WHO recommends a healthy diet for it (2).

Under the COVID-19 pandemic, there is a lot of information on the Internet that, not only vitamins and minerals, but also several ingredients in food can prevent SARS-CoV-2 infection, and particularly aggravation of symptoms, but there is no evidence that these ingredients prevent infection, or aggravation of symptoms (3). The Consumer Affairs Agency (CAA) in Japan alerted the public about these products, and the National Institutes of Biomedical Innovation, Nutrition and Health posted information about whether these

ingredients were effective for COVID-19 or not. On the other hand, deficiency or insufficiency of some essential nutrients might increase the risk of infection and/or aggravation of symptoms (4). This means that nutrition status is important to maintain immune function, which also affects several diseases. However, excessive intake of these vitamins and minerals does not bring additive benefits. In this regard, the food label is one of the informative tools through which we can recognize what level of nutrients we usually ingest from food.

Codex, a joint intergovernmental body of FAO and WHO, in “General Standard for the Labelling of Pre-packaged Foods” (CXS 1-1985) indicated that “Label” means any tag, brand, mark, pictorial or other descriptive matter, written, printed, stencilled, marked, embossed or impressed on, or attached to, a container of food. On the other hand, “Labelling” includes any written, printed or graphic matter that is present on the label, accompanies the food, or is displayed near the food, including that for the purpose of promoting its sale or disposal. In this regard, labeling aims not only to inform but also to educate consumers about appropriate consumption of foods.

### Health issue in Japan

Health Japan 21 (now in its second term) is a ten-year plan begun in 2013; the policies, ideas, and specific goals that form the basis of the plan are included in the “Basic Direction for Comprehensive Implementation of National Health Promotion.” Targets for improve-

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ment of everyday habits and social environment relate to six topics, which are 1) Nutrition and dietary habits, 2) Physical activity and exercise, 3) Rest, 4) Alcohol drinking, 5) Tobacco smoking, 6) Dental and oral health. In nutrition and dietary habit, body weight, dietary pattern and habits, and environments are picked up as targets.

It is well known that Japanese people take excessive salt compared other countries and the WHO recommendation (less than 5 g) (5). The amount of dietary salt consumed is an important determinant of blood pressure levels which is associated with hypertension and cardiovascular events. The Japanese government promotes a decrease salt intake, and the amount of salt intake in Japanese has decreased from 11.5 g in 2005 to 10 g in 2014, but it has remained on a plateau in subsequent years (Data from the National Health and Nutrition Survey, Japan). One more action is needed to promote the further reduction in salt intake.

As described previously, Japan has the highest life expectancy in the world (6). Meanwhile, sarcopenia/frailty has become a major health issue in older people. To prevent sarcopenia, protein/amino acid intake is important, even though exercise is also important. But meal size becomes small, and the ability of gastrointestinal digestion becomes weak in older people. So, efficient protein intake should be considered.

### **Nutrition claim**

A nutrition claim is usually displayed on the back or side of packages. In Japan, energy, protein, fat, carbohydrates, and salt equivalent labeling is mandatory. In addition, saturated fat and dietary fiber are recommended but not mandatory. In the case of other components, including vitamins, minerals, sugar, cholesterol, and fatty acids, this nutrition labeling is voluntary. Previously, sodium content was mandatory instead of salt equivalent. But converting sodium content to salt equivalent is difficult for consumers. As described before, reducing salt intake is an important nutritional issue in Japan; the label should readily allow consumers to recognize how much salt they took.

At present *trans*-fatty acid (TFA) is one of the critical issues on labels in developed countries. TFA is an artificial compound that is associated with an increased risk of heart attacks and death from heart disease. Eliminating TFA from the global food supply and/or suppression of TFA intake could reduce the risk of heart disease. Consumers are made aware of the TFA contents in food and check the nutrition facts panel (7). However, the amount of TFA intake in Japanese is below the recommended level by WHO (less than 1% of total energy intake) (8). In this regard, most Japanese foods do not list TFA contents on the packages.

### **Health claim**

The health claim is also important for controlling health-care with dietary habits. Under the Food Labeling Act in Japan, foods allowed to list health claims are specified as "Foods with Health Claims" that includes

three categories, 1) Foods with Nutrient Function Claims (FNFC), 2) Foods for Specified Health Uses (FOSHU), and 3) Foods with Function Claims (FFC) (9).

FNFC is food for supplements: 13 vitamins (vitamins A, B<sub>1</sub>, B<sub>2</sub>, B<sub>6</sub>, B<sub>12</sub>, C, D, E, and K, biotin, folic acid, niacin, and pantothenic acid), 6 minerals (zinc, calcium, iron, copper, magnesium, and potassium), or n-3 polyunsaturated fatty acids between the lower limit and upper limit of each nutrient. It is the most important in "Foods with Health Claims." However, awareness of FNFC by consumers is the lowest among "Foods with Health Claims," and there are lot of FNFCs which claims several functions beyond these nutritional claims.

FOSHU is food for health maintenance and health promotion. FOSHU can be labeled with claims such as "Helps maintain good gastrointestinal condition," "Slows fat absorption," and "Slows cholesterol absorption." These health claims with scientific evidence are evaluated by the Consumer Commission Cabinet Office, Government of Japan, as well as product safety being evaluated by the Food Safety Commission of Japan. Then, the Secretary-General of CAA approves the labeling of food products. Awareness of FOSHU by consumers is the highest among "Foods with Health Claims," but perception is still low.

FFC is foods expected to have a specific effect on health. Unlike the strict evaluation criteria applied through the FOSHU, FFC is only a notification system in which food manufacturers must meet specific criteria. For a food product to claim effectiveness on its label, evidence for its proposed function claims must be substantiated by one of two standard scientific methods: clinical trials such as randomized controlled trials or systematic reviews. The government does not evaluate the safety and effectiveness of each product. However, information on safety and efficacy of FFCs submitted by the manufacturers are disclosed on the CCA website. Consumers have to check this information by themselves.

In addition to "Foods with Health Claims," a lot of so-called health foods are marketed in Japan. So-called health foods are not allowed to list any health claim in Japan. However, many products claim various efficacies for health, such as weight loss, body building, anti-aging, and prevention and treatment for diseases. In this situation, adverse events which associated with health food usage are reported.

### **Front-of-Pack Labels and nutrition profile**

The CAA conducted an online questionnaire surveillance on 10,000 consumers (over 15 y old) in 2020. About 72% of consumers knew that nutrition labels were on the packages of food. Among them, 53.4% checked the fat content, 46.7% checked the protein content, and 39.8% checked carbohydrate content. Only 20.4% checked salt equivalent. It indicates that consumer awareness of nutritional labels on the back of a pack is low, and this situation is also reported in other countries (10). To eliminate this problem, Front-of-Pack Labels (FOPLs) were established, and there are already several types of FOPLs. A lot of studies about

the effect of FOPLs have been published. Recently, meta-analysis was conducted on 114 articles about the impact of FOPLs on outcomes such as consumers' ability to identify healthier options, product perceptions, purchase behavior, and consumption (11). Each FOPL has both strong points and weak points. For example, the nutri-score is easily understood by consumers and could promote the choice of healthier foods at the point of purchase; however, the nutri-score does not include information of nutrient contents in each food. So, there is a possibility that even if consumers choose all "green" foods, the recommended limit on intake of an unhealthy element, for example salt, can be exceeded. On the other hand, FOPLs not only lead consumers to choose healthier foods, but also prompt manufacturers to produce healthier diets (12). However, their ability to nudge consumers toward healthier choices in the real world is limited.

Codex has just started to work on a guideline for the nutrition profile. The nutrition profile estimates the potential of food to influence the quality of the diet in general; however, it is not about classifying food as "good" and "bad," but identifying foods with better nutritional quality. According to a Codex document, 97 nutrient profile models have been developed in different countries, and these were mainly created with the aim of developing FOPLs. In other words, FOPLs are based on the nutrition profile. Japan is starting out late on FOPLs, and a Japanese nutrition profile should be established prior to preparation of FOPLs.

### Future direction

In many countries, about 80% of salt in the diet comes from processed foods (5). However, many Japanese cook and eat each meal at home. It is reported that salt intake of Japanese at home remains high, and major food groups contributing to sodium intake are seasonings such as salt or soya sauce, and fish and shellfish (13, 14). In this regard, not only a nutrition profile for processed foods, but also a nutrition profile for dishes is important in Japan. In addition, other nutrients, such as protein, fat, and dietary fiber are also concerned with the Japanese epidemiological situation. Furthermore, healthy foods are different among individuals. For example, they are low-calorie, low-fat, and low-sugar foods for obese people, low-sugar foods for diabetes mellitus patients, and high-protein/amino acid foods for older people with risk of frailty. In addition, palatability, price, convenience and brand seem also to be important factors when consumers choose foods. So, we have to investigate an effective nutrition profile on both processed foods and dishes, then which type and which nutrients for FOPLs are the best in Japan with the government, manufacturers, academics, and consumers. Furthermore, we must also harmonize with the

Codex guideline which is under discussion.

### Disclosure of state of COI

No conflicts of interest to be declared.

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