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Foods That Harm Children's Health



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ABSTRACT

Food is an essential source of nutrients for the body. However, if the routine and amount of food consumption are not adequate, some food substances may cause disease. Also, depending on the type of food, nutrients may be unbalanced or contain highly toxic substances. In this paper, we describe recent reports from Japan regarding foods that can be harmful to children. At present, few foods (fishes, vegetables, fruits, brown carbohydrates, olive oil, and nuts) are known to be healthy for adults. However, considering the higher incidence of disease such as allergies in children, it is thought that children should refrain from consuming such foods until their immune system is well established.



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INTRODUCTION

Humans require nutrients for biological processes involving continual physical function (maintenance of life), body growth, and procreation. Although there are many foods in the world, the amount of food consumed depends on individual preference, the availability of food, and the price and degree of food processing (cooking). In the case of children, food intake is greatly dependent on the choices of the parents.

However, not all foods confer health benefits. Some foods are highly palatable but have low nutritional value, and some may be harmful when consumed in large quantities. Also, the consumption of certain foods, especially at a young age, is highly associated with the development of diseases. This article reviews recent reports on the impact of food on children.

Foods disliked by children

In terms of taste, the food disliked by parents is less likely to be prepared in homes. Therefore, the culinary experience of children is inevitably limited by that of their parents. Because of their poor experience, children might be reluctant to try new foods even after growing up. Conversely, it is common for children to like their parents' favorite food. For example, fermented foods, such as Natto (food produced by fermenting soybeans with *Bacillus natto*) and Kusaya (fish opened, soaked in seawater with the viscera, fermented, and then dried; usually eaten after roasting) have strong odors, and may or may not be liked by a person based on preference; however, children develop a taste for these foods if they are enjoyed by the parents and eat them often. Also, it appears that the food- seasoning methods used at the homes of children are preferred by them in adulthood. In Japan, the east side and the west side have different cultures, such as those involving different miso types, soy sauce color, and ways of cutting fish. This contributes to the selection of food based on appearance before even tasting it. Also, the area where someone was born and raised affects the choice of seasonings and ingredients purchased.

Foods that should not be eaten by children

In recent years, the concept of "Immune Tolerance" has become widely known¹⁻³. This concept was discovered by Japanese researchers. Immunity is the mechanism by which foreign substances are removed from the body. If this mechanism works strictly, not only

pathogens, such as viruses and bacteria but also harmful food components, are eliminated⁴. Immune tolerance varies with age (around 4 years of age and is also thought to be linked to food allergies. Food allergy is common among the Japanese, especially in children aged under 1 year old³, and can be life-threatening in severe cases, such as those involving anaphylaxis⁴. Immune tolerance is the normal response to the maintenance of immune system homeostasis, whereas allergy can be considered as an abnormal response resulting from the failure of this homeostasis. Sometimes a child may want the same food the parents are eating; however, children should not be fed foods that may lead to allergies later. Although it has not yet been elucidated scientifically, the consumption of many types of food (e.g. raw fish) before immune tolerance has been correlated with the development of allergies in adults however, studies need to be conducted to validate this correlation. The severity of the immune disease may also be involved like the boost effect in vaccination, in our view (data not shown).

It may be better for some people to avoid eating certain foods for a long time

It is well known that it is better, not only for children but also for adults, to eat less of certain foods (Table 1) that are typically contaminated with toxins such as pesticides and carcinogens (including natural poisons). Here, we reviewed such studies that were conducted recently. Genetically modified crops including soybean and corn are often used in Japan as processed products. It is important to note that 1) in Japan, when food supply is low, genetically modified foods are not necessarily labeled as being so (3% or less is stated as not included) and 2) human safety of genetically modified crops has been confirmed through animal experiments but it has not been investigated throughout the human life span. In recent years, the association of some foods with diseases, such as atopic dermatitis has been suspected⁶, but this hypothesis has not yet been validated experimentally.

Many calorie-free beverages and foods with reduced calorie contents that aid weight reduction is available in the Japanese market; however, they contain many artificial sweeteners, which have been reported to cause damage to the intestinal flora⁷. There are reports that it is easy to rebound even if it is consumed for dieting purpose to reduce hunger⁷. Moreover, there is a report suggesting that artificial sweeteners reduce the immune response and make humans more susceptible to cold; however, there is no scientific basis for this hypothesis⁸.

CONCLUSION

As indicated by the studies discussed above, many foods have several disadvantages. Are there food products that have very few disadvantages and many benefits? According to a report by Dr. Tsugawa, University of California (Los Angeles, USA), only a few foods are known to have proven health benefits (Table 2), such as fish, vegetables, fruits (fruit juice and potatoes not included), brown carbohydrates (even if white, leave the skin, etc. to eat), olive oil, and nuts. Therefore, white bread made from white rice and flour, udon (Japanese wheat noodle) made from refined carbohydrates, beef, pork, and butter should be replaced with bread made from brown rice and whole-grain flour, and buckwheat noodle in the Japanese staple diet. Foods that are considered good for the body are known to contain high vitamin and mineral contents and functional ingredients. Fish contains DHA, which improves blood flow, and colored vegetables contain large amounts of polyphenols. The colored surface of many carbohydrate-containing foods contains a large number of vitamins, ingesting which stimulates metabolism (body growth and energy production). Some oils and nuts improve blood circulation and are expected to prove effective in preventing arteriosclerosis¹⁰. Unfortunately, vegetable- and fruit juices are consumed as liquids, so it is difficult to get a sense of fullness at an early stage, which leads to the excessive consumption of these carbohydrate-containing food products. In the case of fish, contamination with mercury is a matter of concern. In the case of vegetables and fruits, it is necessary to pay attention to excess sugar intake. In the case of olive oil and nuts, the fat intake should be monitored. The Japanese like consuming large amounts of healthy foods, which might have unforeseen harmful effects. Therefore, it is important to encourage the consumption of appropriate quantities of healthy foods. Generally, unrefined foods contain more fiber and vitamins, aiding the regulation of internal absorption and promotion of metabolism. Japanese children generally tend to develop food allergies to eggs, milk, soy, wheat, and rice. Therefore, even though these foods are considered good for adults, the possible harmful effects they might have on children need to be considered. Unfortunately, little is known with certainty about food that is healthy for children; therefore, there is a need for future research in this direction.

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Table no 1: Foods said in Japan that should not be consumed in large quantities

Kinds	Reasons
Processed food represented by instant noodles and sweets	Contain unhealthy food additives. The intake of processed foods (sweets) that contain large quantities of sugar should also be small.
Confectionery bread (including donuts)	Contain large amounts of sugar and additives. Donuts are not confectionery bread, and are not healthy, as they are fried. They contain high amounts of white flour, oil, and sugar, and are high in calories.
Margarine	Contains trans fatty acids. If you want to use margarine on bread because it is cheap, you should still use some butter.
White bread	Prepared using white flour is the material, which contains food additives. White flour is refined, causing many beneficial nutrients, such as vitamins, minerals, and dietary fiber to be removed.
Meat processed products (such as ham)	These are bad for the body as that they have a high salt content. They also contain more food additives. Also, they contain many lipids and should, therefore, not be eaten in large quantities.
Diet foods	These contain artificial sweeteners, some of which are quite toxic. They may cause weight reduction, but there is a high possibility of damage to internal organs, such as the heart.
Soft drinks (sweet soda water such as coke)	Most sweet carbonated beverages are high in sugar. Their caloric content is high and the body often cannot metabolize them well. It is thought that the risk of developing a lifestyle-related disease increases if these are taken regularly.
Fried food	Deep-fried foods are easy to cause obesity as they are too oily. Also, high-temperature frying can produce harmful substances such as lipid peroxide, which increases the risk of developing arteriosclerosis and cancer.
Tuna and swordfish	Fish is a healthier and better source of protein than meat. However, although the amount varies among species, it contains mercury. The amount of mercury in tuna is particularly high. Even when taken, there is also excretion; therefore, ordinary people do not need to worry much. However, pregnant women should not eat it too much, as they may affect the nervous system of the fetus.

Based on the data of Reference 5).

Table no 2: Foods that are said to be good for the health

Groups	Descriptions	Food examples
1	Foods that are good for the health are reported in several credible studies	Fish, vegetables and fruits, brown carbohydrates, olive oil, and nuts.
2	Foods that may be good for health A few studies have suggested their potential for good health.	Dark chocolate, coffee, natto, yogurt, vinegar, soymilk, and green tea.
3	Foods for which neither health benefits nor disadvantages have been reported	The other foods.
4	Foods that may be bad for health. A few studies have suggested these foods may be bad for health.	Mayonnaise, margarine, fruit juice.
5	Foods that are bad for the health have been reported in several credible studies.	Red meat (not including beef, pork, and chicken) and processed meat (such as ham and sausage), white carbohydrates (including potato), and saturated fatty acids such as butter.

Based on the data of Reference 9).