

Is the Japan Diet Instrumental in Preventing Cardiovascular Diseases?

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A healthy diet helps to protect against malnutrition as well as noncommunicable diseases, including dyslipidemia, diabetes, coronary heart disease (CHD), and stroke. By contrast, unhealthy diet and lack of physical activity are leading global risks to human health.

Mediterranean diet (Med-diet) and Washoku were approved by the United Nations Educational, Scientific, and Cultural Organization (UNESCO) for the Intangible Cultural Heritage as Med-diet culture in November 2010 and as Japanese traditional food culture in December 2013, respectively. In the world, both the Med-diet and Japan diet are known to be associated with low morbidity and mortality rates of cardiovascular diseases, including CHD. A systematic hypothesis that eating habits could be protective or adverse in relation with CHD and other morbid conditions was developed by Prof. Ancel Keys in the United States since the late 1940s¹. This multicenter international study is leading to the Seven Countries Study of Cardiovascular Diseases, which started at the end of the 1950s, in 16 cohorts of middle-aged men from eight nations of seven countries, including Japan²⁻⁴. Higher rates of morbidity and mortality from CHD and other cardiovascular diseases were found in North America and northern Europe and lower rates in southern Europe, Mediterranean countries, and Japan. These differences in CHD rates were markedly associated with different levels of dietary saturated fat consumption and average serum cholesterol.

On the other hand, the Japanese dietary pattern has been considered anti-atherosclerotic as compared to the dietary pattern of western countries⁴⁻⁷. Japan Atherosclerosis Society Guidelines 2017 for Prevention of Atherosclerotic Cardiovascular Diseases

shows a recommendation of “the Japan diet” defined as low-salt modified Japanese dietary pattern with lesser fat on animal meat, poultry, daily foods as well as higher consumption of fish, seaweed, soy, vegetables, unpolished grains, mushrooms, and fruits than daily food of western countries⁸.

Previously, Maruyama, *et al.* reported the beneficial effects of the Japan diet on body weight reduction and lowering low-density lipoprotein (LDL) cholesterol (LDL-C), triglyceride, and oxidized LDL, as well as ameliorating serum phospholipid fatty acids to an anti-atherosclerotic profile in middle-aged men, who received no medications and had spent their lives in the westernized dietary environment, in a 6-week pilot study with a nutritional education of Japan diet⁹. As a result it was found that the Japan diet education improved more than one cardiovascular risk factors in 91% of the participants. In this issue Maruyama, *et al.* also have reported that 6-month nutritional education of the Japan diet to patients with medical treatment for dyslipidemia reduced serum LDL-C, TG, and insulin levels in a randomized parallel controlled clinical trial¹⁰. Nevertheless, further long-term studies are needed to clarify the effects of a developed education program designed to optimize consumption of the recommended Japan diet. In the NIPPON Data 80 large scale-cohort study ($n=9086$; follow-up period: 29 years), the traditional Japanese diet with reduced intake of salt significantly decreased the Cox multivariate adjusted hazard ratio of all-cause and cardiovascular disease mortality¹¹. In the meanwhile, the Japanese dietary pattern was associated with a decreased risk of cardiovascular mortality in spite of its relation to sodium intake and hypertension⁶. Albeit a different viewpoint, the NIPPON Data 80 showed that moderate diets lower in carbohydrate and higher in protein and fat are significantly inversely associated with all-cause and cardiovascular disease mortality in women¹².

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The growing common knowledge about the characteristics and virtue of the Med-diet and Washoku, traditional Japanese diet, was recently accompanied by a declaration from the UNESCO that classified these diet habits as a “cultural heritage of humanity” as described at the beginning of this editorial. Recently, the PREDIMED study demonstrated a beneficial effect of Med-diet supplemented with extra-virgin olive oil in the primary prevention of cardiovascular diseases¹³. Therefore, the Japan diet should also be verified by large-scaled studies since not only the Med-diet but also the Japan diet will influence millions of people because of its probable contribution to the decline in cardiovascular disease incidence and mortality.

Conflicts of Interest

H. Yoshida received honoraria for speaking activities from Bayer, Denka, Kowa, and Takeda.

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