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Editorial

Sodium Intake Reduction in Real World

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Among the risk factors of hypertension, excessive sodium intake is an important lifestyle factor. Intervention studies conducted with dietary education have shown that lowering sodium intake reduces blood pressure and cardiovascular events. The Trials of Hypertension Prevention (TOHP), the representative study evaluated the effect of dietary education on blood pressure, have shown the lowering of blood pressure by sodium intake reduction. After termination of trial, long-term follow-up assessment more than 20 years revealed the benefits of sodium intake reduction by education on lowering blood pressure, cardiovascular event and mortality.[1] The Trial of Nonpharmacologic Intervention in the Elderly (TONE) showed the effectiveness of education on sodium intake reduction and lowering blood pressure and the need for antihypertensive drug therapy.[2] However, the results of trials were obtained from the controlled condition, not from the real world. The status of real-world dietary management may be different from the controlled condition. Clinical trials educated participants intensively, but intensive education may not be popular in the general population of the real-world. Therefore, knowledge of whether the results of controlled trials are being applied effectively in the real world is necessary.

Shim et al.[3] investigated the status of dietary management in Korean adults with hypertension from cross-sectional data of the real-world (Korea National Health and Nutrition Examination Survey). They found that below one-third of the study population conducted diet control in their management of hypertension. Moreover, sodium intake was still higher than those recommended. Although there may be a debate for the sodium intake measurement method (measured by dietary survey method, not by a gold standard method, 24-hour urine collection), this does not affect the study results and is not the scope of editorial. Adherence to dietary and drug treatment in the management of hypertension is the most important component to prevent cardiovascular events. Poor adherence to drug treatment has been reported to increase cardiovascular events.[4] Besides, excessive sodium intake seems to attenuate the blood pressure-lowering efficacy of antihypertensive drugs.[5]

Most guidelines recommend sodium intake reduction to treat hypertension but do not give specific instructions on how to reduce sodium intake. And while there are many educational materials on reducing sodium intake provided by academic societies, healthcare facilities, and government agencies, there is no research on how peoples are using them, how effectively they are being used in healthcare systems, or whether improvements are

needed for their use. To effectively reduce sodium intake in the real-world, providing effective and continuous education on how to reduce intake more effectively beyond simple recommendations is necessary. Besides, efforts to lower sodium content in processed foods and participation of the food service are required because peoples are commonly impossible to prepare all the food himself and processed food and food from the catering industry are other sources of high sodium intake.

Some studies have argued that excessively lowering sodium intake leads to increased mortality, and they suggested level of sodium intake above the recommended levels.[6-8] However, recent studies have shown that this argument is the result of an inappropriate research method and sodium intake reduction is still valid.[9][10] Blood pressure lowering by sodium intake reduction is most effective in people with hypertension and/or metabolic syndrome, older people, and women. However, a recommendation of sodium intake to the general population not to a specific population with sodium sensitivity is appropriate because the diagnosis of sodium sensitivity is difficult and expensive, and sodium sensitivity is not a fixed response but also appears with the development of hypertension and aging. Therefore, the development of effective methods that can be applied easily to the general population, and application of those developed methods and monitoring of effectiveness are needed with continuous improvement.

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