

Multifaceted Efficacy of a Realistic Low-Salt Diet for Hypertension Complicated with Type 2 Diabetes Mellitus

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Summary

The purpose of this study is to find a method of salt reduction that is realistically feasible for diabetic patients with hypertension complications. We used several items of low-sodium seasonings to examine the secondary, multifaceted effects along with the antihypertensive effects. The most significant feature of this study is that the "provision of low-sodium seasonings" was used as the intervention, and the use of low-sodium seasonings was not forced but left to the patients' initiative. This study evaluated the effectiveness of the "provision of low-sodium seasonings" intervention in reducing the use of low-sodium seasonings, and the effectiveness of the intervention in lowering blood pressure.

Patients with type 2 diabetes mellitus complicated by hypertension (age range 20-75 years) were included in the study. Participants used low-sodium seasonings (e.g., low-sodium salt, soy sauce, sauce, ketchup, mayonnaise, etc.) provided free of charge when cooking and eating for 3 months by their own decision.

Thirty-one patients (interim analysis results $n = 15$ shown below) participated in the study, with a mean age of 68.1 ± 7.8 years, 9 (60.0%) males, BMI 26.6 ± 4.8 kg/m², and HbA1c $6.85 \pm 0.91\%$. In the questionnaire, the frequency of use of low-sodium seasonings was daily: 6 (40.0%), 4 or more days a week: 3 (20.0%), 2 or more days a week: 4 (13.3%), and less than 1 day a week: 2 (6.7%). From pre-intervention to 3 months of intervention, estimated salt intake decreased from an average of 10.34 g/day to 9.10 g/day ($P = 0.002$), and mean systolic blood pressure improved from an average of 143.1 mmHg to 136.1 mmHg ($P = 0.006$) on ambulatory blood pressure monitoring (ABPM). The intervention method of providing low-sodium seasonings was considered to be effective in reducing salt intake. In the third month of the intervention, only one patient answered that their enjoyment of meals had decreased compared to before the provision of the seasonings.

If the multifaceted effects of this 3-month intervention are demonstrated, we can expect to reduce the incidence of arteriosclerotic diseases and improve the prognosis of life by continuing this method for a longer period.