



Never give up correcting your lifestyle! The beginning is always the hardest!

Tatsuo Shimosawa¹

Received: 24 April 2018 / Revised: 1 May 2018 / Accepted: 1 May 2018
© The Japanese Society of Hypertension 2018

It is well accepted that lower salt intake can lower blood pressure as well as prevent cardiovascular events and lower mortality. Most societies promote both population-based and individual-based approaches to reduce salt intake. In Japan, salt intake has been markedly decreasing for several decades; however, the reduction rate has recently been blunted, and general surveys show that the intake is ~10 g/day on average. The Japanese Society of Hypertension launched several projects to approach salt reduction in patients and even school children. In the current issue of *Hypertension Research*, Takada and colleagues successfully clarified the effect of daily self-monitoring of salt intake using an easy apparatus. They carried out single-blinded and cluster randomized controlled trials for 4 weeks of intervention to show the effectiveness in reducing salt intake and blood pressure. Intervention groups showed significant reductions in both urinary sodium concentration and blood pressure; however, no difference was observed in potassium excretion. Moreover, there was no correlation between the degree of urinary sodium reduction and changes in blood pressure. As the authors stated, the blood pressure reduction was greater than expected (−4 mmHg) for only 0.5 g of salt reduction. They assumed that self-monitoring not only directly affects reduction of salt intake but also indirectly affects the consciousness of one's health condition and may alter other factors that affect blood pressure, such as lifestyle choices other than diet and drug adherence. These indirect effects can be observed when patients are encouraged to monitor their blood pressure at home.

Although the current report is promising, several studies showed that lifestyle modifications require long-lasting

adherence and that only 4 weeks of observation may be too short to receive high credibility for recommending individuals to use the apparatus. The 21 day myth that has been widely spoken of is based on research by the plastic surgeon Dr. Maxwell Maltz. He reported in his best-selling book “Psycho-cybernetics” [1] that “*It usually requires a minimum of about 21 days to effect any perceptible change in a mental image. Following plastic surgery it takes about 21 days for the average patient to get used to his new face. When an arm or leg is amputated the ‘phantom limb’ persists for about 21 days. People must live in a new house for about three weeks before it begins to ‘seem like home’. These, and many other commonly observed phenomena tend to show that it requires a minimum of about 21 days for an old mental image to dissolve and a new one to jell.*” (pp xiii–xiv). This anecdote might prevail, and 4 weeks can be considered long enough to establish a habit of measuring sodium excretion and maintaining a healthy diet; however, additional scientific reports, such as that by Lally and colleagues, indicate that 66 days are required to establish a healthy lifestyle. Lally et al. recruited 96 college graduate students to form a lifestyle that included much fruit and exercise, with a study duration of >80 days. Some participants formed habits in as quick as 2 weeks, while others failed to form a lifestyle change after 80 days. The average was 66 days [2].

Never give up! The beginning is always the hardest!

Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

References

1. Maltz M. Psycho-cybernetics. New York: Simon & Schuster, Inc; 1960.
2. Lally P, van Jaarsveld CH, Potts HW, Wardle J. How are habits formed: modelling habit formation in the real world. *Eur J Soc Psychol.* 2010;40:998–1009.

✉ Tatsuo Shimosawa
tshimo-ty@umin.ac.jp

¹ Department of Clinical Laboratory, Faculty of Medicine, International University of Health and Welfare, Graduate School of Medicine, 1-4-3 Mita Minatoku, Tokyo 108-8329, Japan