Journal of
Community & Public Health Nursing

Kara, J Comm Pub Health Nursing 2016, 2:1
DOI: 10.4172/2471-9846.1000e112

Editorial Open Access

Salt Consumption: Reflections on Public Health

Belgüzar Kara*

Department of Internal Medicine Nursing, School of Nursing, Gulhane Military Medical Academy, Ankara, Turkey

The ancestors of humans ate a diet that contained less than 0.5 g of salt per day (equivalent to 0.2 g sodium/day) during million years of evolution. The human body is therefore genetically programed to this amount of salt [1]. Currently, mean daily salt intake levels are 7-13 g, varying by region and population group [2]. Studies have also reported higher rates in several Asian countries [3], as well as in Turkey [4]. However, the human body cannot evolve quickly enough to adapt to this change [1]. As a result, nowadays, a high-salt diet may lead to many non-communicable diseases, including cardiovascular disease, hypertension, stroke, stomach cancer, kidney disease, asthma and osteoporosis. As reported by the World Health Organization (WHO), non-communicable diseases are the leading cause of morbidity and mortality globally [5,6]. Additionally, high salt intake has been linked to obesity due to consumption of calorie containing beverages caused by thirst [7].

On the other hand, recent studies indicate that eating too much salt may also cause chronic inflammation and autoimmune diseases. In an experimental, longitudinal study in healthy individuals, Yi et al. [8] investigated the relationships between salt-intake level (12, 9, and 6 g/day) and the immune system. Interestingly, their findings have shown that there was a strong positive association between high-salt diet and number of monocyte. The decrease in salt consumed has also contributed to diminished production of pro-inflammatory cytokines. The researchers pointed out that high-salt diet may cause excessive immune response [8]. In accordance to these findings, Hucke et al. [9] found that high dietary salt intake promotes the central nervous system autoimmunity accompanied by increased macrophage responses. In the same study, it was noted that increased dietary salt intake may influence multiple sclerosis disease activity by affecting myeloid cell activation [9].

Consequently, there is substantial evidence in favor of salt reduction in the general population. According to a new guideline issued by the World Health Organization [5], adults should consume less than 2 g of sodium per day (equivalent to 5 g salt/day). Basically, while the main source of salt in developed countries comes from salt added to processed foods (outside of the direct control of individual), the main source in developing countries is salt added to food during cooking or at the table [7]. An online cohort study conducted in 6,987 adults from Germany, Austria, the United States, Hungary, India, China, South Africa, and Brazil suggested that the participants generally thought that reducing salt intake is healthy and important. However, about one third (34%) of the participants were not interested in salt consumption reduction and the majority were unaware of recommended salt intake levels [2]. Newson et al. [2] stated that "while some aspects of salt reduction can be globally implemented, local tailoring is required to match level of interest in salt reduction" (p. 22). In this context, a mix of individual- and population-based approaches has been identified as the most cost-effective strategy for reducing salt-intake, both developed and developing countries [6,7,10]. The use of self-monitoring devices may be an effective motivational tool for salt restriction [11]. It is anticipated that future studies will provide important evidence regarding the effects of salt and barriers to change in salt consumption.

References

1. He FJ, Macgregor GA (2012) Salt intake, plasma sodium, and worldwide salt reduction. Ann Med 44: S127-S137.
2. Newson RS, Elmadfa I, Biro G, Cheng Y, Prakash V, et al. (2013) Barriers for progress in salt reduction in the general population: an international study. Appetite 71: 22-31.
3. He FJ, MacGregor GA (2010) Reducing population salt intake worldwide: from evidence to implementation. Prog Cardiovasc Dis 52: 363-382.
4. Erdem Y, Arici M, Altun B, Turgan C, Sindel S, et al. (2010) The relationship between hypertension and salt intake in Turkish population: SALTURK study. Blood Press 19: 313-318.
5. World Health Organization (WHO) (2012) Guideline: sodium intake for adults and children. WHO Press, Geneva.
6. Suckling RJ, Swift PA (2015) The health impacts of dietary sodium and a low-salt diet. Clin Med 15: 585-588.
7. Campbell NR, Johnson JA, Campbell TS (2012) Sodium consumption: an individual's choice? Int J Hypertens 2012: 1-6.
8. Yi B, Titze J, Rykova M, Feuerecker M, Vassilieva G, et al. (2015) Effects of dietary salt levels on monocytic cells and immune responses in healthy human subjects: a longitudinal study. Transl Res 166: 103-110.
9. Hucke S, Eschborn M, Liebmann M, Herold M, Freise N, et al. (2015) Sodium chloride promotes pro-inflammatory macrophage polarization thereby aggravating CNS autoimmunity. J Autoimmun [in press].
10. Kara B (2014) Health beliefs related to salt-restricted diet in patients on hemodialysis: Psychometric evaluation of the Turkish version of the Beliefs about Dietary Compliance Scale. J Transcult Nurs 25: 256-264.
11. Yasutake K, Horita N, Umeki Y, Misumi Y, Murata Y, et al. (2015) Self-management of salt intake: clinical significance of urinary salt excretion estimated using a self-monitoring device. Hypertens Res [in press].

***Corresponding author:** Belguzar Kara, Associate Professor, Department of Internal Medicine Nursing, School of Nursing, Gulhane Military Medical Academy, Ankara, Turkey, Tel: 90 312 3041565; E-mail: sb.kara@mynet.com

Received December 05, 2015; **Accepted** December 12, 2015; **Published** January 05, 2016

Citation: Kara B (2016) Salt Consumption: Reflections on Public Health. J Comm Pub Health Nursing 2: e112. doi:10.4172/2471-9846.1000e112

Copyright: © 2016 Kara B. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.