

Salt Consumption: Reflections on Public Health

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Our 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 programmed 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 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. Some researchers pointed out that high-salt diet may cause excessive immune response [8]. In accordance to these findings, Hucke et al. [9]

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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].

[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.

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