

Watching salt intake lowers blood pressure, health risks in diabetes

8 December 2010, By Glenda Fauntleroy



For patients living with diabetes, reducing the amount of salt in their daily diet is key to warding off serious threats to their health, a new review of studies finds.

In the Cochrane review, the authors evaluated 13 studies with 254 adults who had either type 1 or type 2 [diabetes](#). For an average duration of one week, participants were restricted to large reduction in their daily salt intake to see how the change would affect their blood pressure.

"We were surprised to find so few studies of modest, practical salt reduction in diabetes where patients are at high cardiovascular risk and stand much to gain from interventions that reduce blood pressure," said lead reviewer Rebecca Suckling. "However, despite this, there was a consistent reduction in blood pressure when salt intake was reduced."

Suckling is part of the Blood Pressure Unit at St. George's Hospital Medical School, in London.

The review appears in the current issue of The Cochrane Library, a publication of The Cochrane Collaboration, an international organization that evaluates research in all aspects of health care. Systematic reviews draw evidence-based conclusions about medical practice after considering both the content and quality of existing trials on a topic.

Patients with diabetes need to be extra cautious to maintain their blood pressure at an acceptable range of less than 130/80 mmHg. However, in the 2003-2004 period, 75 percent of adults with diabetes had blood pressure greater than or equal to 130/80 mmHg or used prescription hypertension medications, according to the American Diabetes Association (ADA).

High salt intake is a major cause for increased blood pressure and, in those with diabetes, elevated blood pressure can lead to more serious health problems, including stroke, heart attack and diabetic kidney disease. The ADA also reports that diabetic kidney disease is the leading cause of chronic kidney disease, accounting for 44 percent of new cases in 2005.

In the Cochrane review, the participants' average salt intake was restricted by 11.9 grams a day for those with type 1 diabetes and by 7.3 grams a day for those with type 2.

The reviewers wrote that reducing salt intake by 8.5 grams a day could lower patients' blood pressure by 7/3 mmHg. This was true for patients with both type 1 and [type 2 diabetes](#). The reviewers noted that this reduction in blood pressure is similar to that found from taking blood pressure medication.

Suckling acknowledged that studies in the review only lasted for a week and that the type of salt

restriction probably would not be manageable for longer periods.

"The majority of studies were small and only of a short duration with large changes in [salt intake](#)," she said. "These studies are easy to perform and give information on the short-term effects of salt reduction."

However, Suckling said, the review also found that in studies greater than two weeks, where salt was reduced by a more achievable and sustainable amount of 4.5 grams a day, blood pressure was reduced by 6/4 mmHg.

Diabetes specialist Todd Brown, M.D., of the Division of Endocrinology and Metabolism at Johns Hopkins University, said that practicing low-salt diets of these types is quite challenging for most patients with diabetes even though they know the health risks.

"The effects of salt on blood pressure are well known to health professionals and most patients, but what is less well known is where the salt comes from in our diet," Brown said.

"The overwhelming majority comes from the processed foods that we eat," he said. "If we are going to realize the benefits of sodium reduction on [blood pressure](#) and other health outcomes, we should focus less on the salt shaker and more on what we buy in the supermarket and at chain restaurants."

More information: Suckling RJ, et al. Altered dietary salt intake for preventing and treating diabetic kidney disease. *Cochrane Database of Systematic Reviews* 2010, Issue 12.

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