Effects of salt reduction on cardiovascular risk factors. The STRIVE-study

Toft, U.; Riis, Nanna Louise; Lassen, Anne Dahl; Trolle, Ellen; Bjørnsbo, K. S.

Published in:
European Journal of Public Health

Link to article, DOI:
10.1093/eurpub/ckz185.389

Publication date:
2019

Document Version
Publisher's PDF, also known as Version of record

Citation (APA):

---

General rights
Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.
Effects of salt reduction on cardiovascular risk factors. The STRIVE-study
Ulla Toft

U Toft1, NL Riis2, AD Lassen2, E Trolle2, KS Bjarresbo1
1Center for Clinical Research and Prevention, Bispebjerg Hospital, Frederiksberg, Denmark
2National Food Institute, Technical University of Denmark, Kgs. Lyngby, Denmark
Contact: ulla.toft@regionh.dk

Potential adverse effects of reducing salt intake in the general population are discussed. This study aims to explore the effect of gradually reducing salt intake in a real-life setting.

The study was a 4-month cluster RCT with families randomly assigned to either A) salt reduced bread, B) salt reduced bread and dietary counselling or C) standard bread (control) Participants in intervention A received bread gradually reduced in salt content from 1.2 g salt/100g (regular) to 0.6 g salt/100g in ryebread and 0.4 g salt/100g in wheat bread. Participants in intervention B received the same bread as intervention A but in addition, they received dietary advise on how to further reduce their salt intake and promote potassium. The control group received regular bread (blinded). Changes in outcomes were assessed using linear mixed models.

Results:
A total of 89 Danish families (155 adults; 156 children) participated in the study. A total of 291 (94%) participants completed the intervention. Results are preliminary. Intention to treat analyses showed no significant effects of the salt reduction intervention on changes in systolic and diastolic blood pressure, plasma triglyceride. A small, but significant (-0.26 mmol/l; P = 0.02) decrease in total plasma cholesterol was shown in intervention group A. Per protocol analyses, including only participants in the intervention groups that decreased their salt intake by at least 20% from baseline to 4-month follow-up, showed a significant decrease in diastolic (-3.5 mmHg; P < 0.0001) and systolic (-6.3 mmHg; P < 0.0001) blood pressure, total cholesterol (-0.25 mmol/l; P = 0.0009), LDL cholesterol (log. transformed) (-6%; P = 0.03) and plasma triglyceride (log. transformed) (-17%; P = 0.04). No significant effects were found for HDL plasma cholesterol, aldosterone, renin, plasma glucose and HbA1c.

Conclusions:
Reduced salt intake were associated with beneficial changes in cardiovascular risk factors. No adverse effects were observed.

Key messages:
- Reduced salt intake were associated with benificial changes in cardiovascular risk factors.
- No adverse effects were observed.