The ‘Four Imperatives’ for a reduction in population salt intake

Francesco P Cappuccio MBBS MD MSc DSc FRCP FFPH FBIHS FESC FAHA

Professor of Cardiovascular Medicine & Epidemiology
Head, WHO Collaborating Centre for Nutrition
Immediate Past-President, British and Irish Hypertension Society
University of Warwick, Coventry, UK

Salt or Sodium

All types of salt contain >97% sodium chloride[1].

2.5 g of salt =
1.0 g of sodium


Black salt
(Kala namak)


Celtic salt


Coarse salt


Flake salt


Fleur de Sel


French Sea salt


Grey salt


Grinder salt


Hawaiian Sea salt
(Alaea)


Himalayan Pink salt


Italian Sea salt


Kosher salt


Organic salt


Sea salt


Smoked Sea salt

[1]*Federal Food Safety and Veterinary Office, Switzerland (2016)*

“Four Imperatives” for a reduction in population salt intake

"Preventive Imperative"

- Salt consumption is much higher than needed[1].
- A reduction in salt consumption causes a dose-dependent reduction in BP[1,2].
- Lower salt intake is associated with lower morbidity and mortality from CVD[1,2].
- Population salt reduction programmes are **feasible** and **effective**[3].

[1]*Cappuccio FP, Capewell S. Funct. Food Reviews 2015; 7(1): 41-61;*
[2]*Aburto NJ et al. Br. Med. J. 2013; 346: f1326;*
[3]*He FJ et al. BMJ Open 2014; 4: e004549*

"Economic Imperative"

- A reduction in salt intake of 3g per day would save 194,000-392,000 QALYs and $10-24b in health care costs annually in the US, i.e. **a return of $6-12 for every $ spent**[1]
- Even modest reduction of 1g per day would be cost saving and **more cost-effective that using medications** to lower blood pressure[1]
- Population reductions in salt intake through **food reformulation from industry would be cost-saving**.
- Whilst 'voluntary ' action by the food industry is cost-effective, population **health benefits could be 20 times greater with Government legislation** of moderate salt limits in processed foods[2]
- Population salt reduction programmes are **cost saving in all settings**[3].

[1]*Bibbins-Domingo K et al. N.E.J.M. 2010; 362: 590-599*
[2]*Cobiac LJ et al. Heart 2010; 96: 1920-1925*
[3]*Cappuccio FP, Capewell S. Funct. Food Reviews 2015; 7(1): 41-61*

"Political Imperative"

- Salt consumption can be reduced rapidly[1].
- A reduction in salt consumption delivers substantial health benefits[2].
- Salt consumption is higher in socially disadvantaged groups[3-4].
- A population reduction is expected to reduce health inequalities[5-6].
- Population salt reduction programmes are **powerful, rapid, equitable**.

[1]Capewell S, O'Flaherty M. Lancet 2011; 378: 752-753; [2]Aburto NJ et al. Br. Med. J. 2013; 346: f1326;
[3]Ji C et al BMJ Open 2013; 3: e002246; [4]Cappuccio FP et al. BMJ Open 2015;5:e007467
[5]Ji C & Cappuccio FP. BMJ Open 2014; 4: e005683; [6]Gillespie DOS et al. PLoS ONE 2015; 10: e0127927

“Moral Imperative”

- Population salt reduction programmes **save lives**

High sodium intake	Low intake of whole grains	Low intake of fruits
3 m deaths	3 m deaths	2 m deaths
70 m DALYs	82 m DALYs	65 m DALYs

GBD 2017 Diet Collaborators. Lancet 2019; 393: 1958-1972

Components of a strategy to reduce population salt intake

Three-pillar approach

Communication

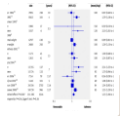
- **Public Awareness Campaigns**
- Consumers
- Food industry
- Decision makers
- Media
- Health Professionals

Reformulation

- **Setting Targets**
- Reformulation
- Benchmarking food categories
- Labelling
- **Industry Engagement**
- Motivation
- Costs & Benefits
- Consumer awareness
- Wider support
- Corporate responsibility
- **Voluntary vs Regulatory**

Monitoring

- **Population salt intake**
- Urinary sodium
- Dietary surveys
- **Reformulation progress**
- Salt content of foods (databanks; self-reporting by industry; market surveys)
- **Effectiveness of communication**
- Measuring awareness of campaigns
- Measuring attitudes and behaviour changes



Research

- Epidemiology
- Nutrition
- Public Health
- Food technology
- Behavioural
- Evaluation
- Policy

Cappuccio FP et al. Br. Med. J. 2010; 343: 402-405

Contact me to find out more and to explore collaborations

- f.p.cappuccio@warwick.ac.uk
- 024 7657 3129
- www2.warwick.ac.uk/go/cappuccio/who