Quanto sale per non eccedere?

5 g/die

ANDREA GHISELLI
CRA-NUT

Piramide della dieta mediterranea moderna (salata)

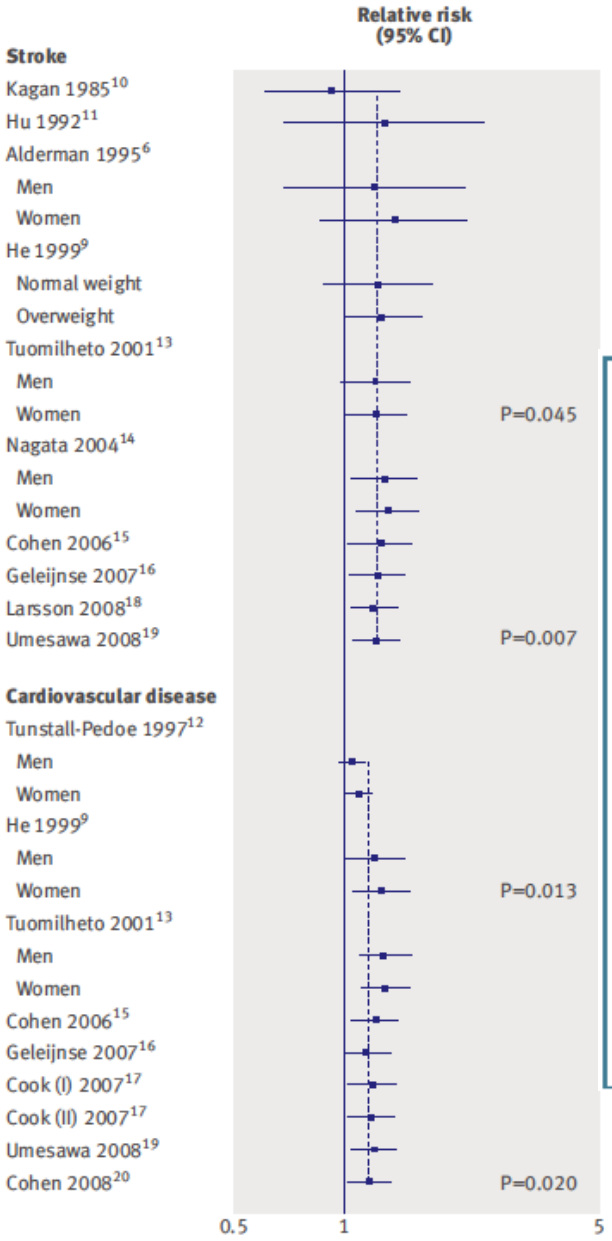


Fig 3 | Cumulative meta-analysis. Evaluation of time trends (year of publication) in relation between habitual sodium intake and risk of stroke or cardiovascular disease

RESEARCH

e. stroke. and cardiovascular disease: meta-

WHAT IS ALREADY KNOWN ON THIS TOPIC

Experimental, epidemiological, migration, and intervention studies have shown a causal relation between habitual dietary salt intake and blood pressure

Population based intervention studies and meta-analyses of randomised controlled trials have shown that it is possible to achieve significant reductions in blood pressure with reduced salt intake in both hypertensive and normotensive individuals

WHAT THIS STUDY ADDS

5 g di sale = 2 g Na

Higher salt intake is associated with significantly greater incidence of strokes and total cardiovascular events, with a dose dependent association

A difference of 5 g a day in habitual salt intake is associated with a 23% difference in the rate of stroke and 17% difference in the rate of total cardiovascular disease

Each year a 5 g reduction in daily salt intake at the population level could avert some one and a quarter million deaths from stroke and almost three million deaths from cardiovascular disease worldwide

were extracted and pooled with a
l, weighting for the inverse of the
eity, publication bias, subgroup, and
lyses were performed. Criteria for
pective adult population study,
ntake as baseline exposure,
r stroke or total cardiovascular
, follow-up of at least three years,

cant reductions in blood pressure with reduced salt intake in people with and without hypertension.[1] Based on the effects of high salt intake on blood pressure and on the prominent role of high blood pressure in promoting cardiovascular diseases, it has been suggested that a population-wide reduction in salt intake could substantially reduce the incidence of cardiovascular disease.[2] On the basis of the results of a

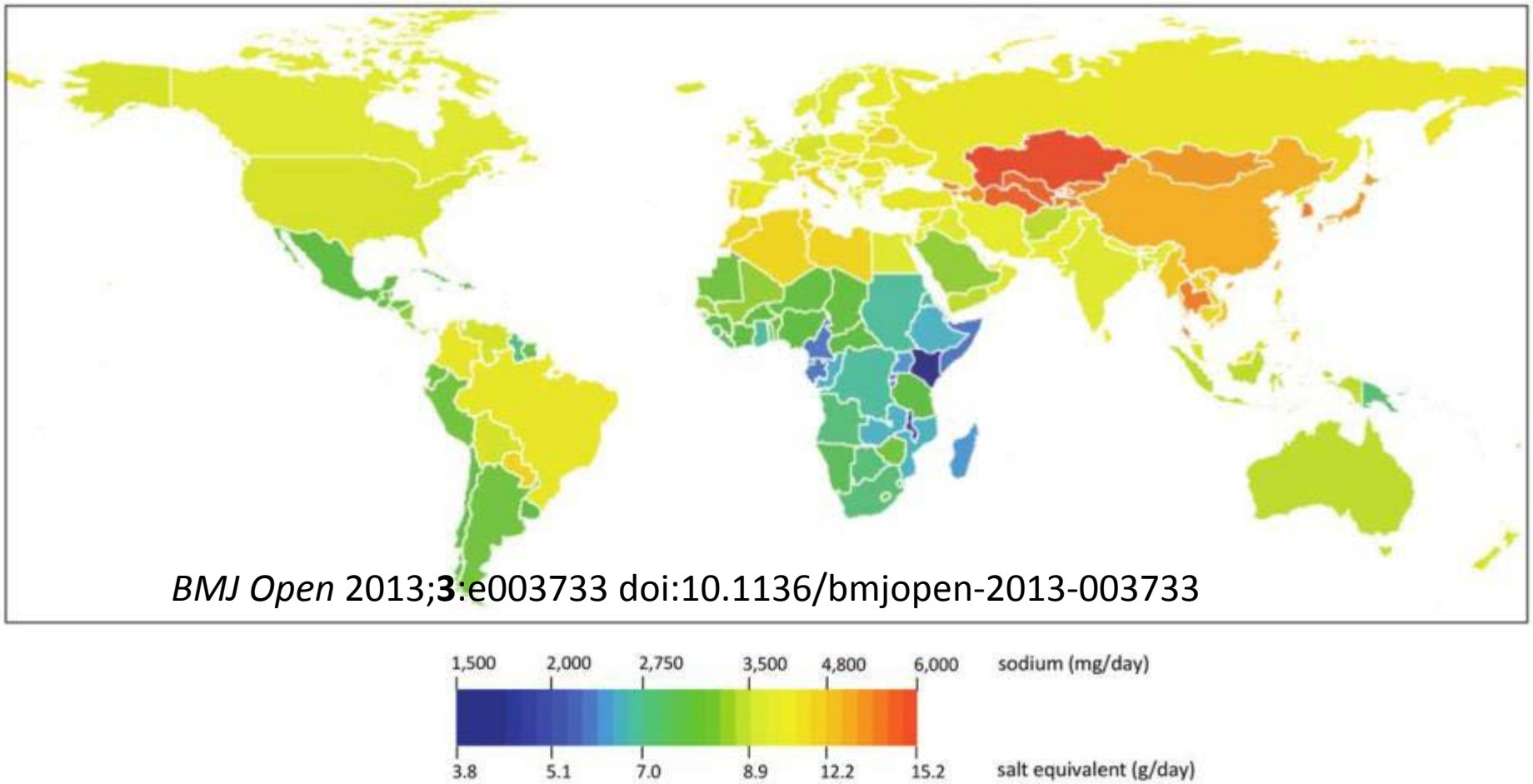
Stima dell'apporto di sodio

- Indagine alimentare
  - Stima inaccurata per difetto nelle tabelle
  - Mancata valutazione del sale aggiunto
- Escrezione urinaria del sodio spot
  - Inaffidabile: escrezione sodio variabile
- Escrezione urinaria del sodio nelle 24h
  - Normalizzato per la creatinina
  - Misure ripetute per variabilità giornaliera

Consumo di sale in Italia

- Leclerq e Ferro-Luzzi EJCN 1991
  - Tre aree 91 famiglie
    - M 191 mmol/d, 4,4 g di Na = **10.9** g di NaCl
    - F 160 mmol/d 3.6 g di Na = **9.0** g di NaCl
    - B 132 mmol/d= 3,0 g di Na = **7.5** g di NaCl
- Pavan L *et al.* J. of Hypertension 1997
  - Nord Italia
  - 370 soggetti (111 M e 259 F, 22-88 anni)
    - 188.3 mmol/die = 4,3 g di Na = **10,8** g di NaCl
- Venezia A et al. Eur. J. Clin. Nutr. 2010
  - Sud Italia
  - 940 soggetti maschi
    - 203 mmol/die = 4.6 g di Na = **11.7** g di NaCl
- Donfrancesco et al. NMCD 2013
  - 12 regioni italiane (1168 M e1112 F)
    - M 189 mmol = 4.4 g di Na = **10.9** g di NaCl
    - F 147 mmol = 3.4 g di Na = **8.5** g di NaCl

Apporto di sodio nel mondo
(adulti di entrambi i sessi)



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Dietary Approach to Stop Hypertension (1997)

APPENDIX 10. THE DASH EATING PLAN AT VARIOUS CALORIE LEVELS

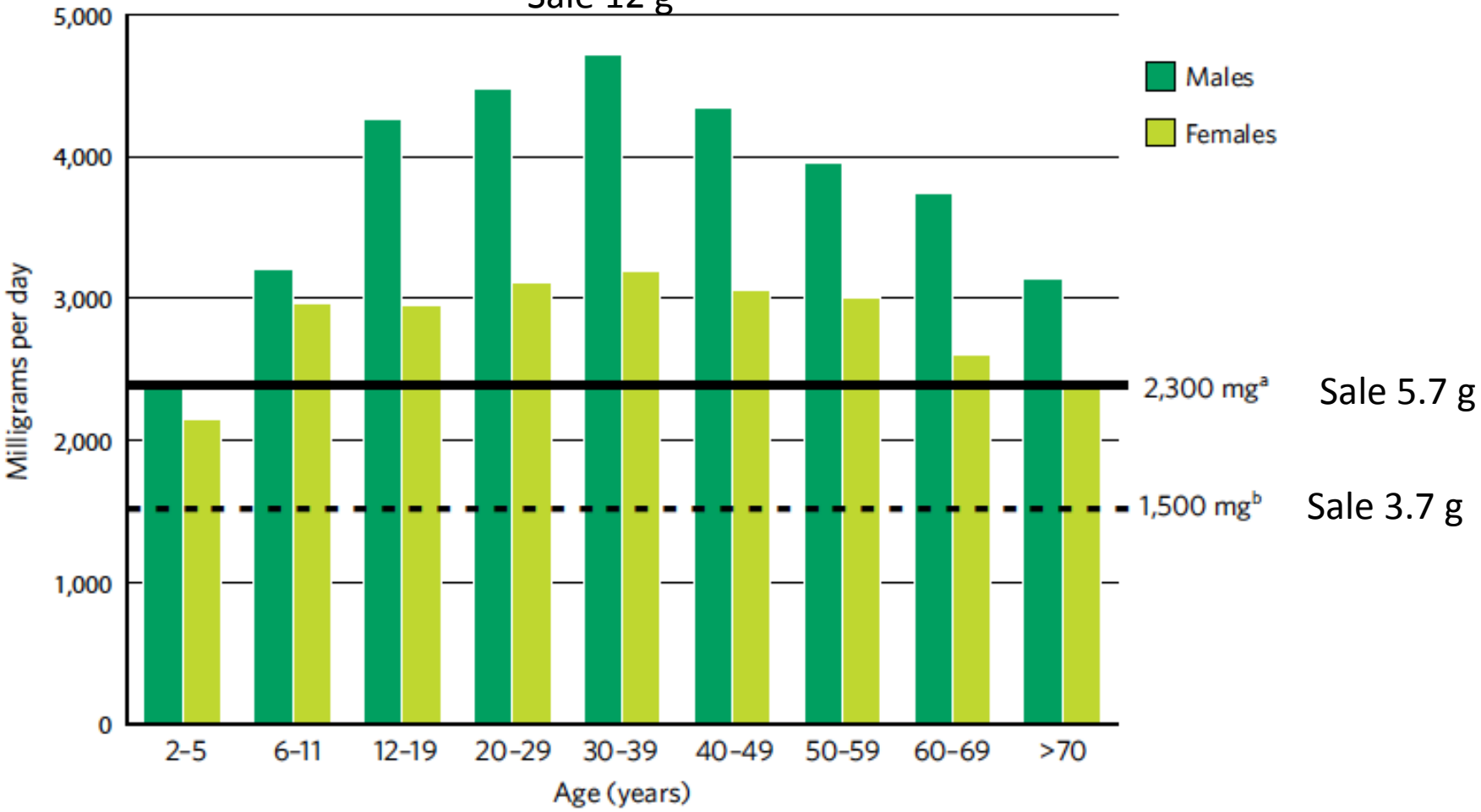
The number of daily servings in a food group vary depending on caloric needs[a]

Food Group[b]	1,200 Calories	1,400 Calories	1,600 Calories	1,800 Calories	2,000 Calories	2,600 Calories	3,100 Calories	Serving Sizes
Grains	4–5	5–6	6	6	6–8	10–11	12–13	1 slice bread 1 oz dry cereal[c] ½ cup cooked rice, pasta, or cereal[c]
Vegetables	3–4	3–4	3–4	4–5	4–5	5–6	6	1 cup raw leafy vegetable ½ cup cut-up raw or cooked vegetable ½ cup vegetable juice
Fruits	3–4	4	4	4–5	4–5	5–6	6	1 medium fruit ¼ cup dried fruit ½ cup fresh, frozen, or canned fruit ½ cup fruit juice
Fat-free or low-fat milk and milk products	2–3	2–3	2–3	2–3	2–3	3	3–4	1 cup milk or yogurt 1½ oz cheese
Lean meats, poultry, and fish	3 or less	3–4 or less	3–4 or less	6 or less	6 or less	6 or less	6–9	1 oz cooked meats, poultry, or fish 1 egg
Nuts, seeds, and legumes	3 per week	3 per week	3–4 per week	4 per week	4–5 per week	1	1	⅓ cup or 1½ oz nuts 2 Tbsp peanut butter 2 Tbsp or ½ oz seeds ½ cup cooked legumes (dried beans, peas)
Fats and oils	1	1	2	2–3	2–3	3	4	1 tsp soft margarine 1 tsp vegetable oil 1 Tbsp mayonnaise 1 Tbsp salad dressing
Sweets and added sugars	3 or less per week	3 or less per week	3 or less per week	5 or less per week	5 or less per week	< 2	< 2	1 Tbsp sugar 1 Tbsp jelly or jam ½ cup sorbet, gelatin dessert 1 cup lemonade
Maximum sodium limit[d]	2,300 mg/day	2,300 mg/day	2,300 mg/day	2,300 mg/day	2,300 mg/day	2,300 mg/day	2,300 mg/day	

during the trial. NA denotes not available.

FIGURE 3-1. Estimated Mean Daily Sodium Intake, by Age–Gender Group, NHANES 2005–2006

Sale 12 g



Sale 5.7 g

Sale 3.7 g

a. 2,300 mg/day is the Tolerable Upper Intake Level (UL) for sodium intake in adults set by the Institute of Medicine (IOM). For children younger than age 14 years, the UL is less than 2,300 mg/day.
b. 1,500 mg/day is the Adequate Intake (AI) for individuals ages 9 years and older.

Source: U.S. Department of Agriculture, Agricultural Research Service and U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. What We Eat In America, NHANES 2005–2006. http://www.ars.usda.gov/Services/docs.htm?docid=13793. Accessed August 11, 2010.

WHO. *Guideline: Sodium intake for adults and children*. Geneva, World Health Organization (WHO), 2012

World Health Organization

Guideline:

Recommendations

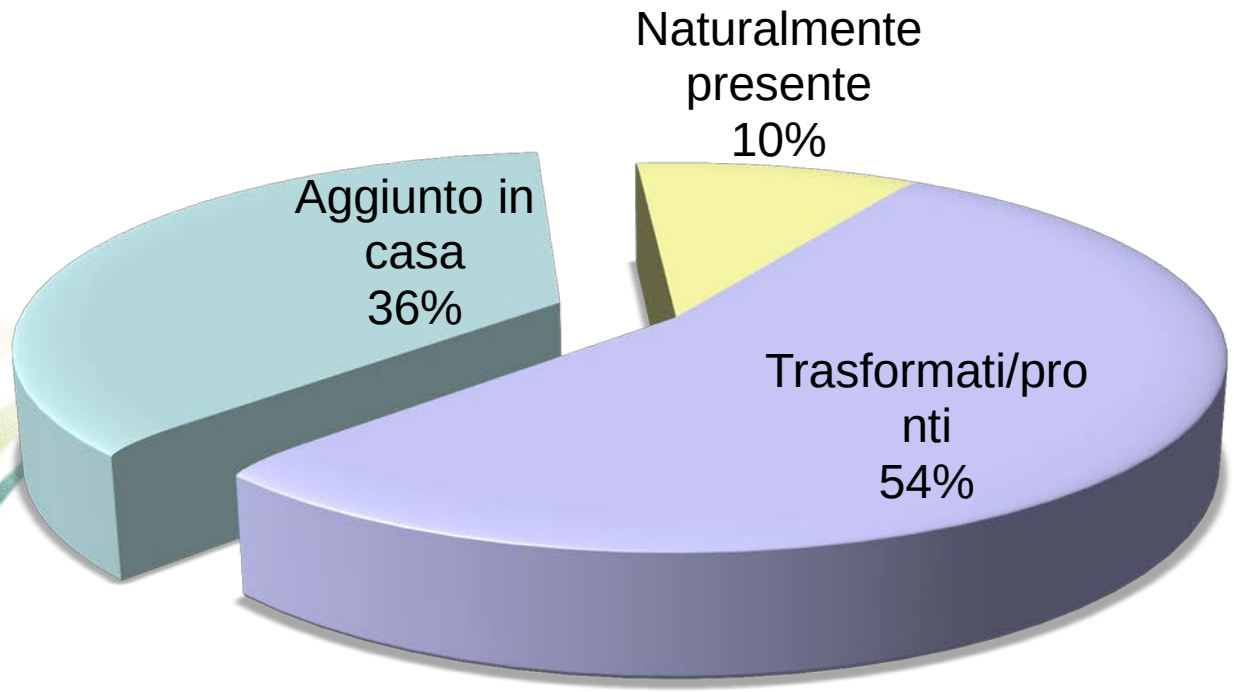
- WHO recommends a reduction in sodium intake to reduce blood pressure and risk of cardiovascular disease, stroke and coronary heart disease in adults (*strong recommendation*[1]). WHO recommends a reduction to <2 g/day sodium (5 g/day salt) in adults (*strong recommendation*).

- WHO recommends a reduction in sodium intake to control[2] blood pressure in children (*strong recommendation*). The recommended maximum level of intake of 2 g/day sodium in adults should be adjusted downward based on the energy requirements of children relative to those of adults.

Raccomandazioni e i consumi a confronto

			M 18-64	F 18-64
	DASH	**LARN**	2390	1939
Grassi totali (%)	27	25-35	37.5	37.4
Saturi fat (%)	6	<10	11.1	11.3
Proteine (%)	18	12-18	16.3	16.2
Carboidrati (%)	55	45-60	46.1	46.3
Colesterolo (mg)	150	-	331	265
Sodio/Sale (g)	2.3/5,75	2.0/5.0	4-4.8/10-12	4-4.8/10-12
Potassio (mg)	4700	3900	3218	2861
Calcio (mg)	1250	1000	799	730
Magnesio (mg)	500	240	305	257
Fibra (g)	30	25.2-33.4	19.6	17.7

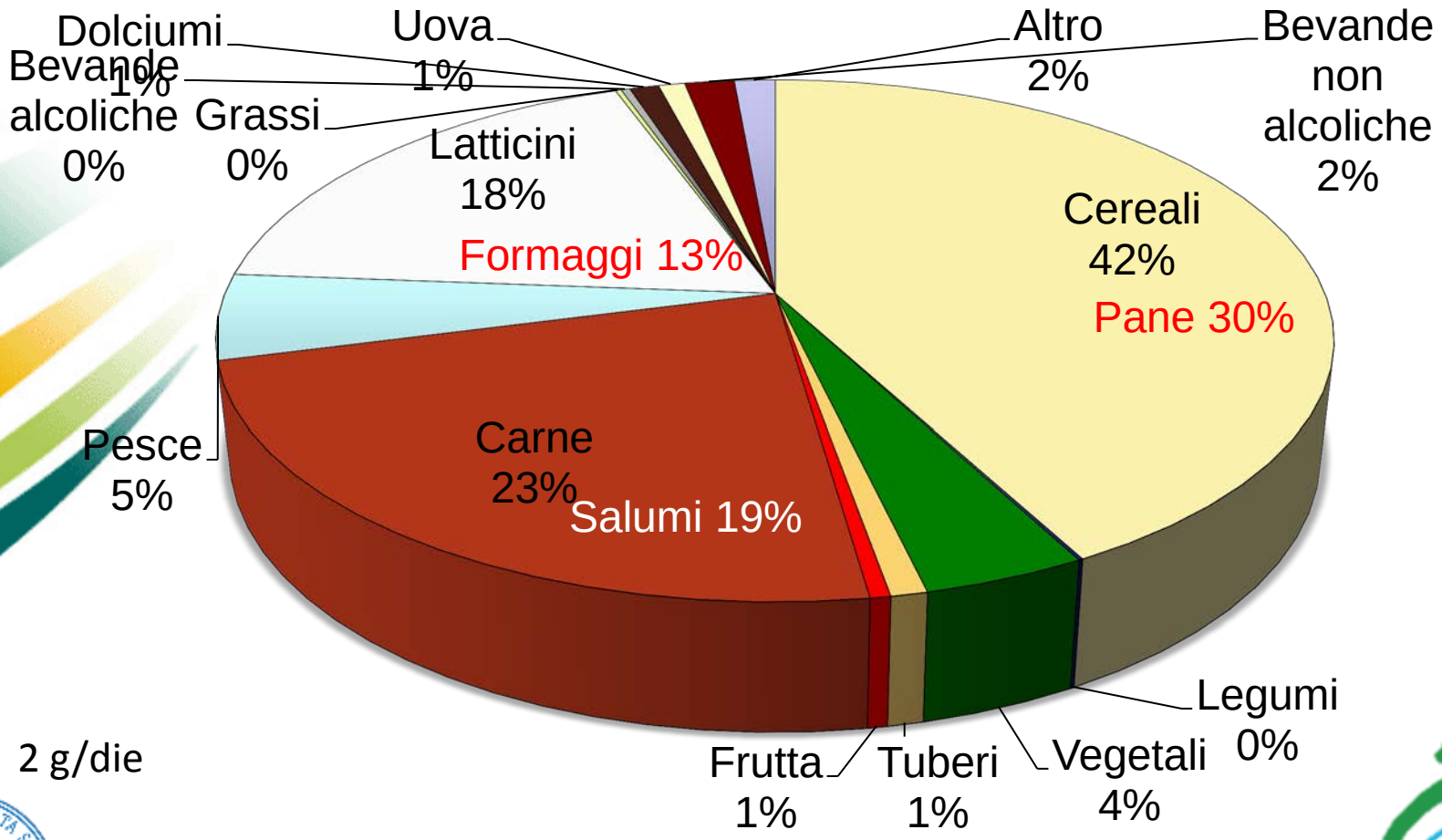
Fonti di sodio nella dieta italiana
(Linee Guida 2003)



Andrea Ghiselli, CRA-NUT, Via Ardeatina 546 – 00178 Roma

Fonti di sodio nella dieta degli italiani

Dati non pubblicati da INRAN-SCAI



2 g/die

Andrea Ghiselli, CRA-NUT, Via Ardeatina 546 – 00178 Roma

Consumi (2005-06) di gruppi di alimenti e confronto con le raccomandazioni

Leclercq et al. 2009

1. Cereali e tuberi

62-80%

	Media consumo (g pro capite giorno)	Porzioni	LINEE GUIDA Porzioni per 2100 kcal
Pane & pizza	111.1	2,2	5
Pasta	54.2	0.9	1
Riso	15.8		
Cereali prima colazione	1.5	0.8	1
Biscotti	13.8		
Patate	50.9	1.8 (sett)	2 (sett)

800-900 mg Na

450-700 mg Na

Quanto sale in un piatto di pasta?

5-10 g/L
(0.5-1.0 g/100 mL)

0.4-0.8 g/80 g
(160-320 mg Na)

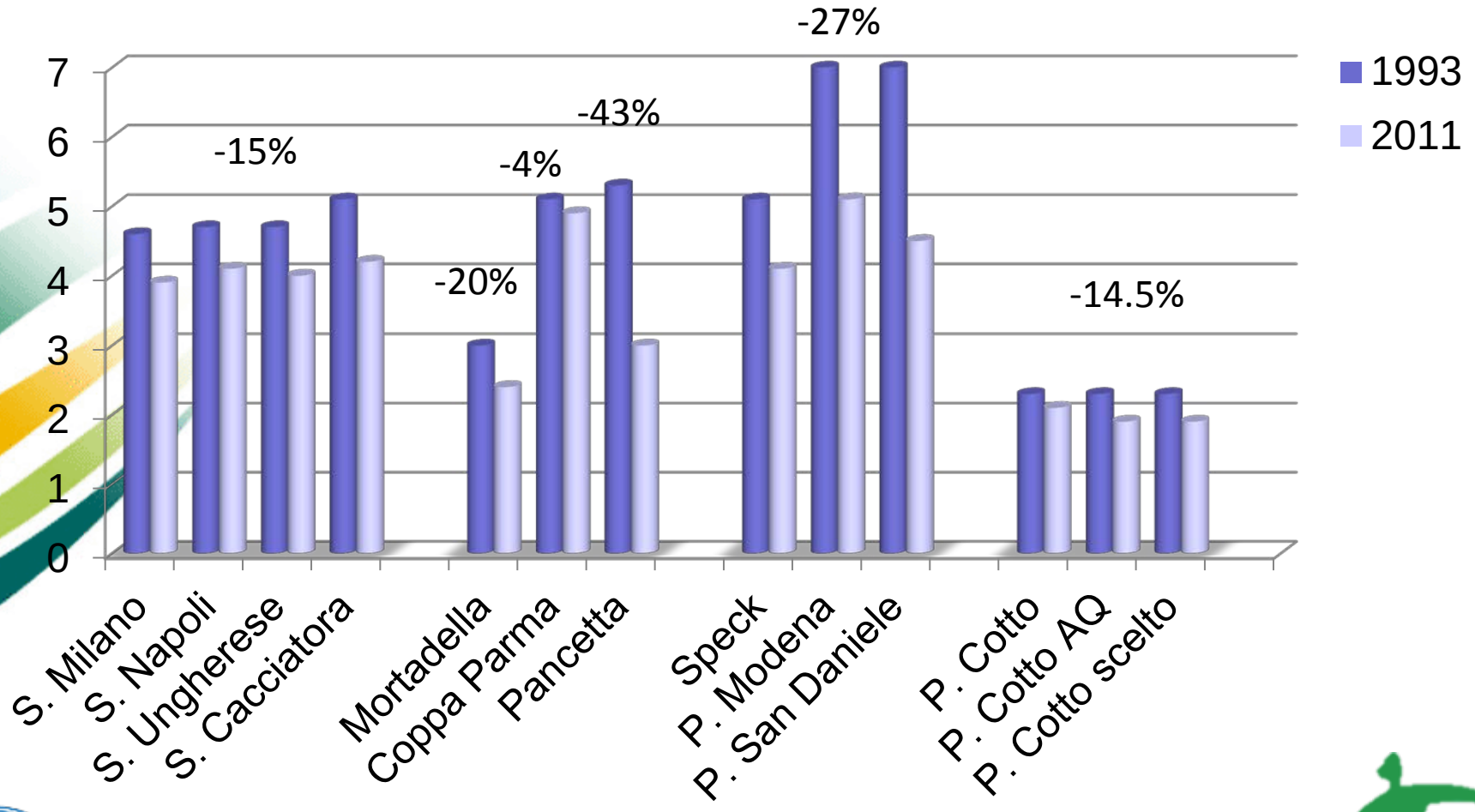
200-300 mg Na

60 mg Na

450-700 mg Na (22-35%)

Andrea Ghiselli, CRA-NUT, Via Ardeatina 546 – 00178 Roma

Trend ventennale del contenuto di sale in vari prodotti (g/100)



Andrea Ghiselli, CRA-NUT, Via Ardeatina 546 – 00178 Roma

Conclusioni

- Il consumo di sodio in Italia è elevato
- Un elevato consumo di sodio è causa di aumentata mortalità
- In Italia il consumo di formaggi e salumi è importante e sono auspicabili differenti scelte alimentari per riportare i consumi all'interno delle raccomandazioni
- Tuttavia la gran parte del consumo di sodio è quello che si aggiunge in casa durante la preparazione degli alimenti

Andrea Ghiselli, CRA-NUT, Via Ardeatina 546 – 00178 Roma

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CONSIGLIO PER LA RICERCA E LA SPERIMENTAZIONE IN AGRICOLTURA

ORIGINAL ARTICLE

Projected Effect of Dietary Salt Reductions on Future Cardiovascular Disease

Kirsten Bibbins-Domingo, Ph.D., M.D., Glenn M. Chertow, M.D., M.P.H., Pamela G. Coxson, Ph.D., Andrew Moran, M.D., James M. Lightwood, Ph.D., Mark J. Pletcher, M.D., M.P.H., and Lee Goldman, M.D., M.P.H.