

The
Food & Drink
Innovation
Network



Salt

- **Normal Intake** $\frac{1}{4}$ to $\frac{1}{2}$ g/day, same as Gorillas, Chimpanzees etc)
- **Preserves food** Approx. 6000 yrs ago. Became most important substance, allowing civilisation to develop etc
- **1870 Deep freeze refrigerator** No need for salt. However **80%** hidden in food e.g. processed, canteen, restaurant and fast food
- **Current intake (UK)** Women 9 g/day, Men 12 g/day

Consumer completely unaware of the amount of salt they are eating

Salt

In the amount eaten i.e. 10-12 g/day,
Salt is a chronic longer term toxin that raises BP

At	20 yrs of age	-	20% raised BP	
“	50 yrs of age	-	50% raised BP	
“	70 yrs of age	-	70% raised BP	(Health survey for England 1998)

Raised BP - most important cause of:

Stroke

Heart failure

Heart attack

(WHO report 2003)

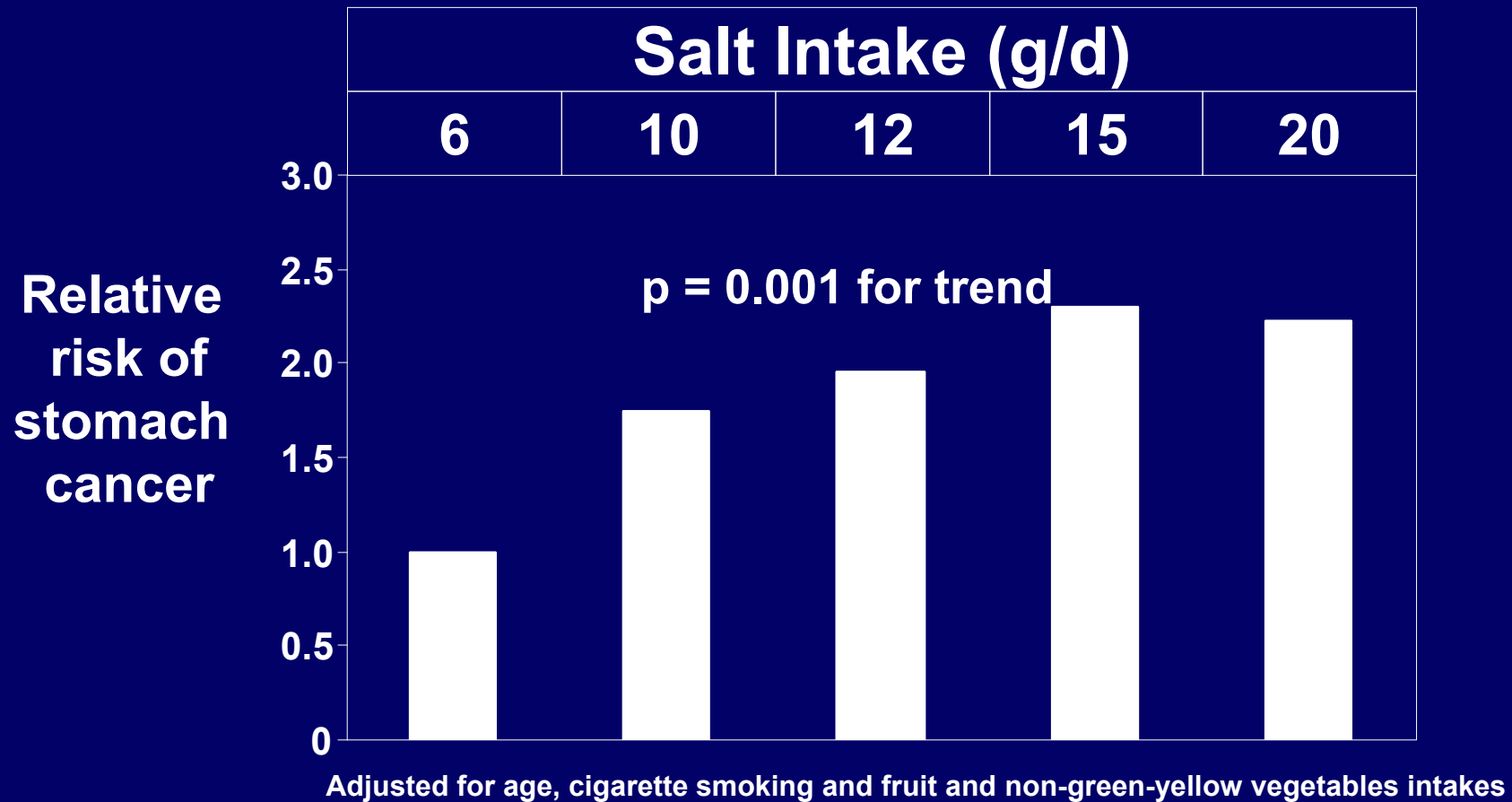
Total deaths in UK from CVD – 240,000

(BHF report on CVD 2003)

**Other harmful effects - Cancer of stomach
Osteoporosis**

Salt & Stomach Cancer

Prospective study in 18,684 Japanese men



A reduction from **10-12 to 5-6 g/d** would prevent:

35,000 stroke and IHD deaths &

35,000 non-fatal stroke and IHD a year

Even a **1 g/d** reduction would prevent:

6,700 stroke & IHD deaths &

6,700 non-fatal stroke and IHD a year

80% of salt consumed is now added without:

The knowledge or consent of the consumer

(a) Processed, (b) Fast, (c) Canteen, (d) Restaurant food

15% added by consumer, 5% naturally in foods

Current salt intake  **12 g/day Men**
9 g/day Women

Recommended  **COMA – 1994** **Max 6 g/day**
SACN – 2003 **Max 6 g/day**
WHO – 2003 **Max 5 g/day**

∴ Salt concentration of all foods where salt has been added must be reduced

Strategy – 12g/d

	Current	Target	
Table / Cooking	1.8 g (15%)	50% reduction	0.9 g
Natural	10.6 g (5%)	No reduction	0.6g
Food industry	9.6 g (80%)	53% reduction	4.5g
	12 g/d		6g /d

- ∴ Food industry needs to reduce salt content of **ALL** foods by 55 to 60%

(Allowing for some that can't be reduced by this amount)

- ∴ 10% reduction per year for 6 years

Perceived Barriers

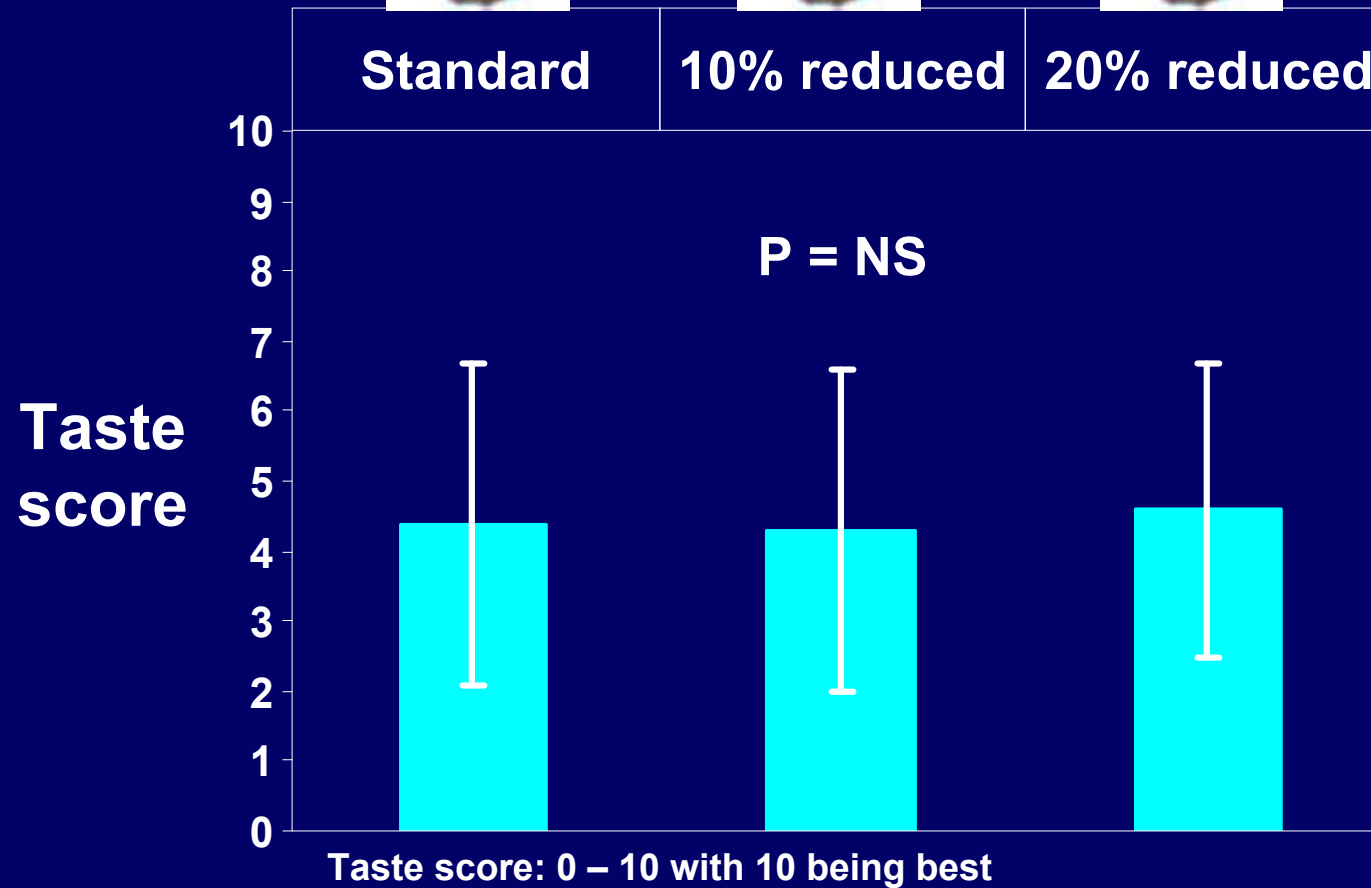
1. Taste
2. Consistency of food / food technology
3. Safety
4. Financial

Taste

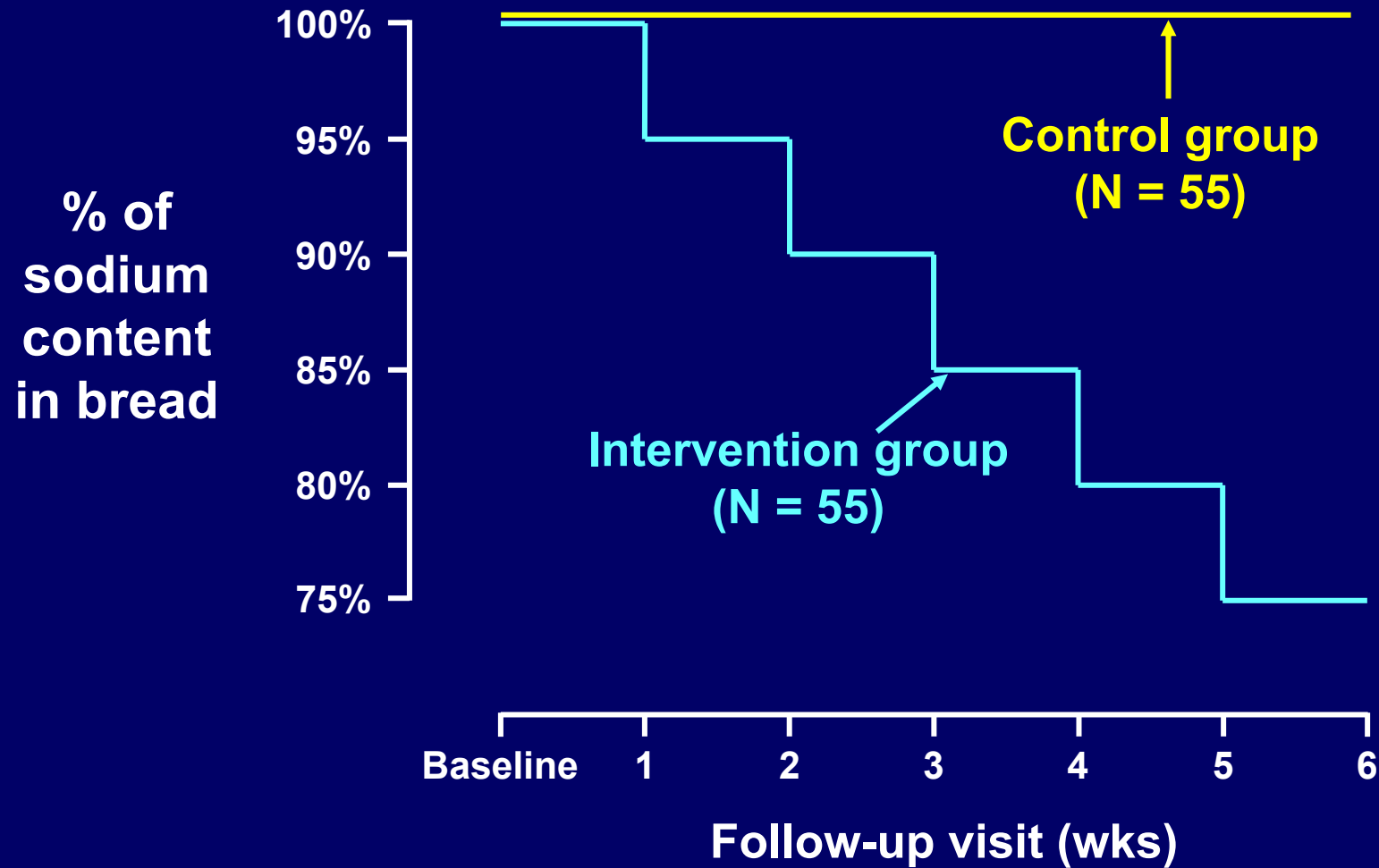
1. The sensitivity of the salt taste receptors is dependent on chronic salt intake
2. The sensitivity is increased by reducing salt intake but takes 3-6 weeks to adjust
3. The food industry has nothing to fear from a gradual and sustained reduction in salt concentration of foods – Indeed it is likely that higher salt containing foods will be rejected

Studies

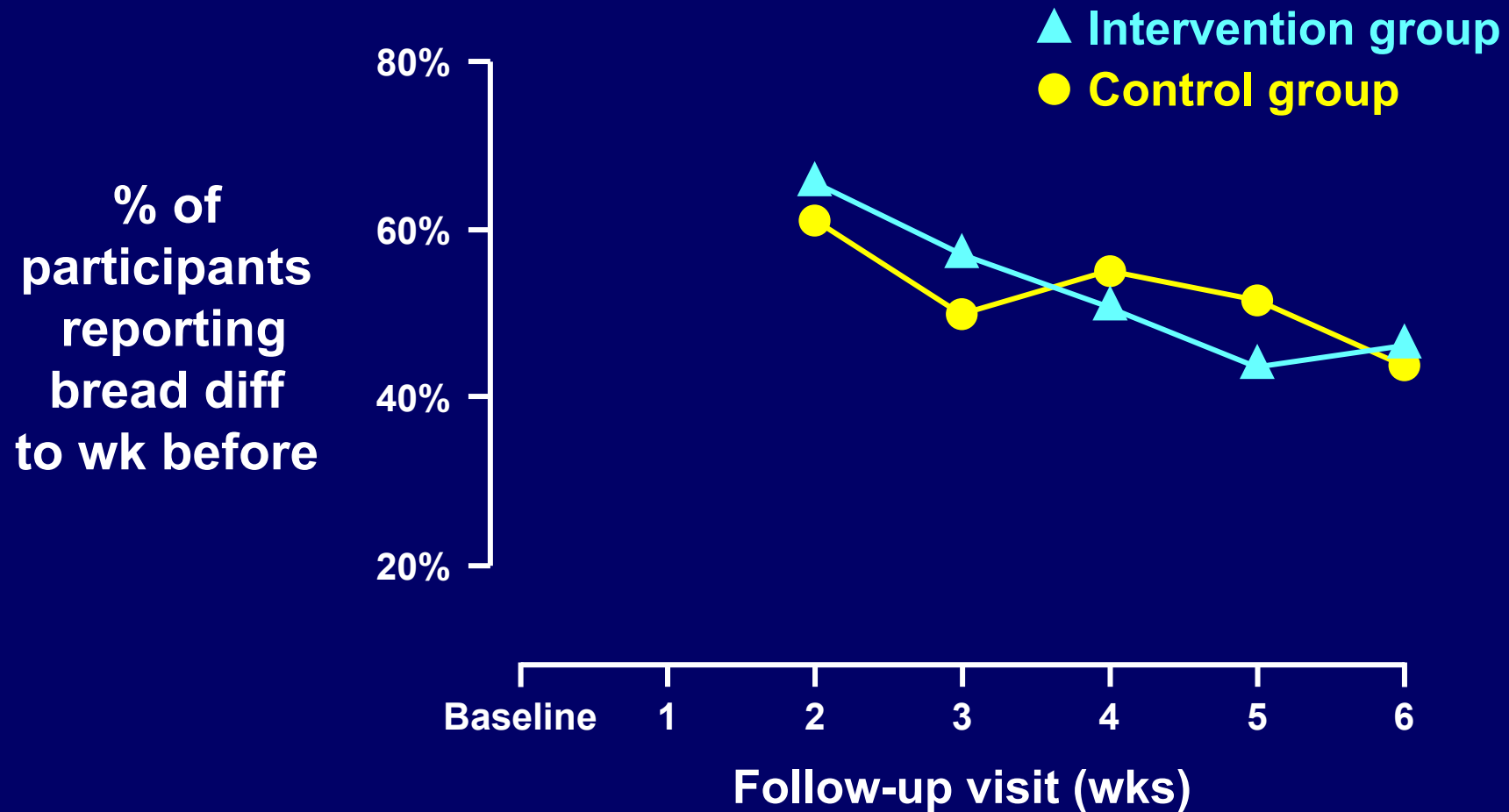
Salt Taste Experiment



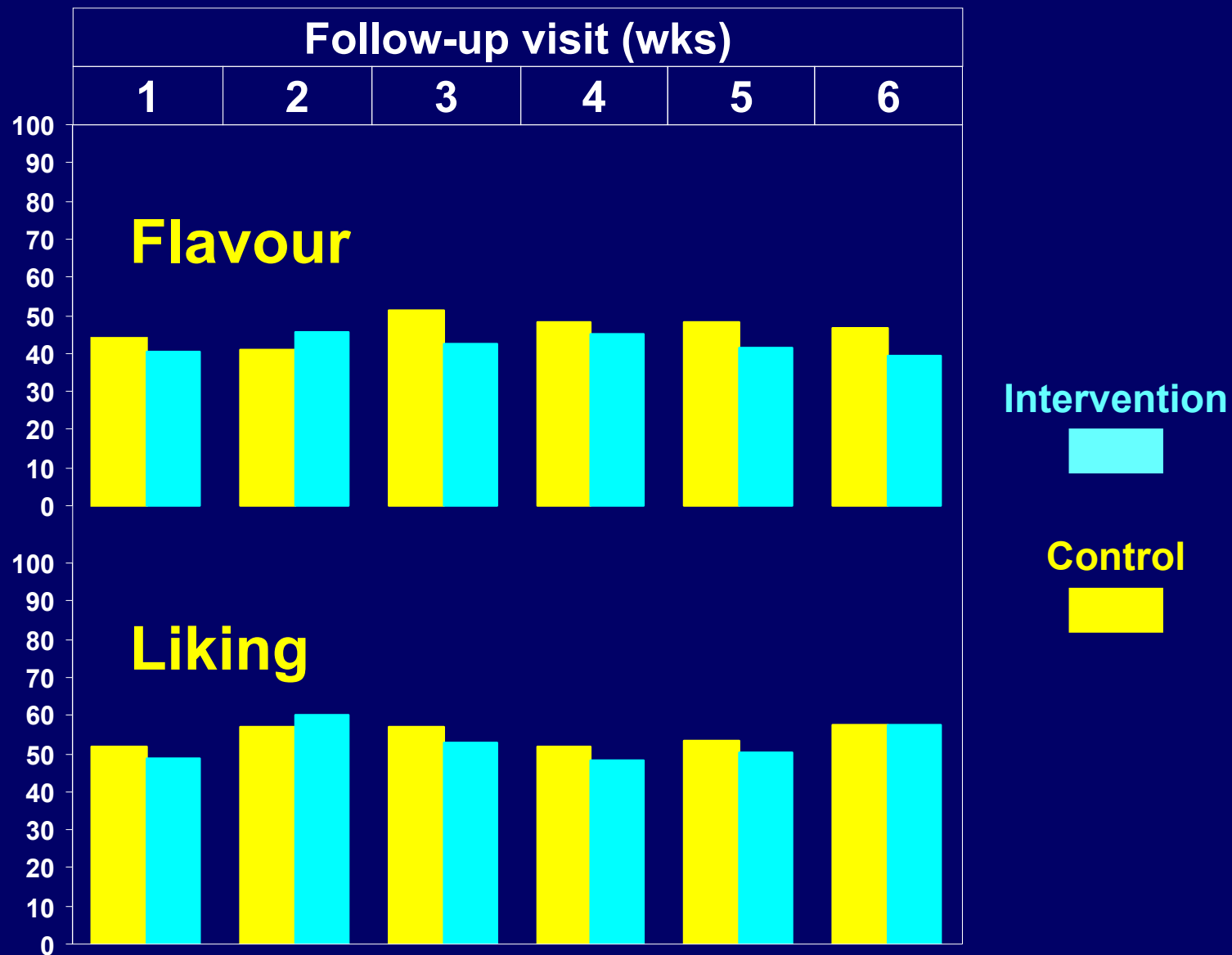
Randomised Controlled Trial

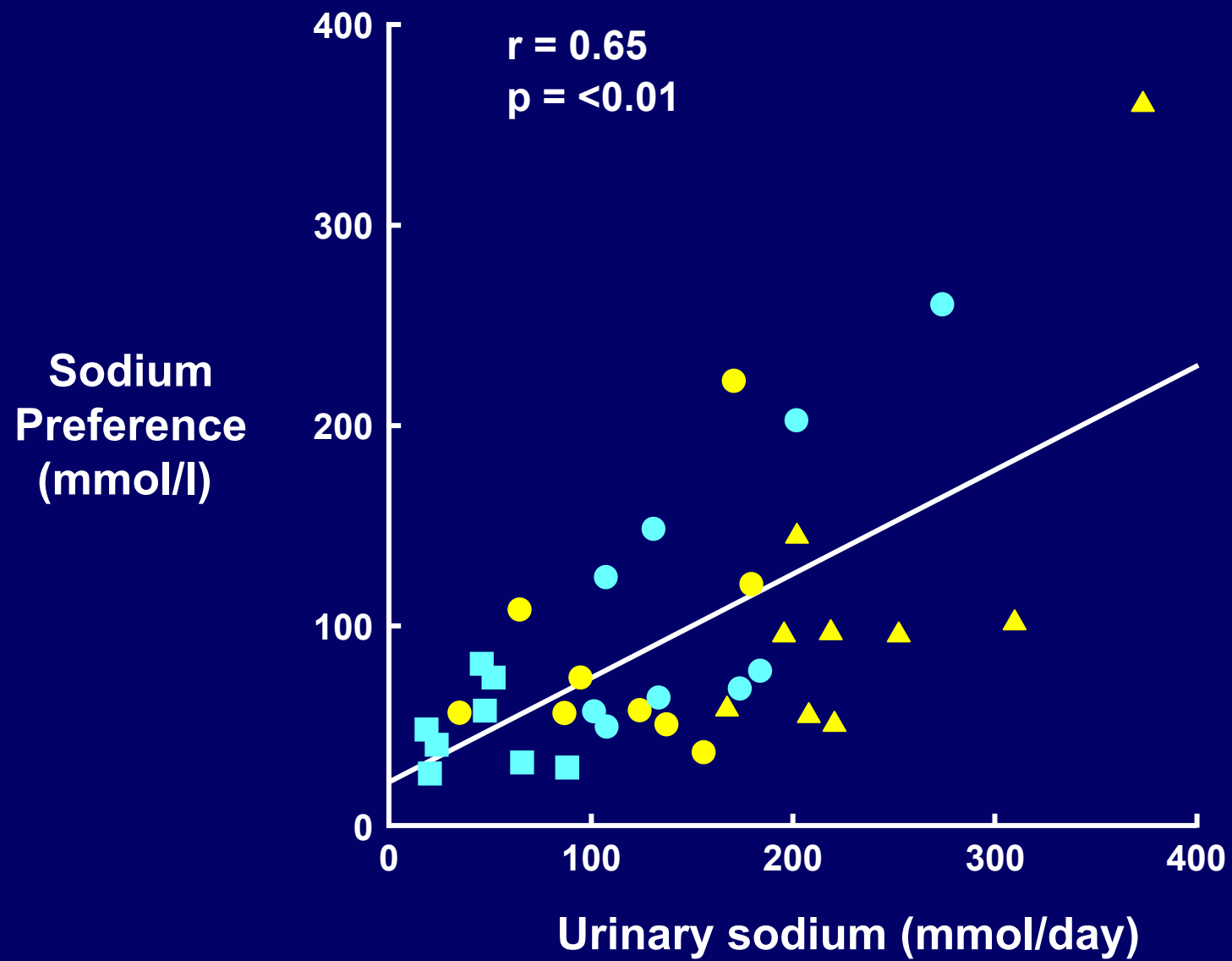


Taste

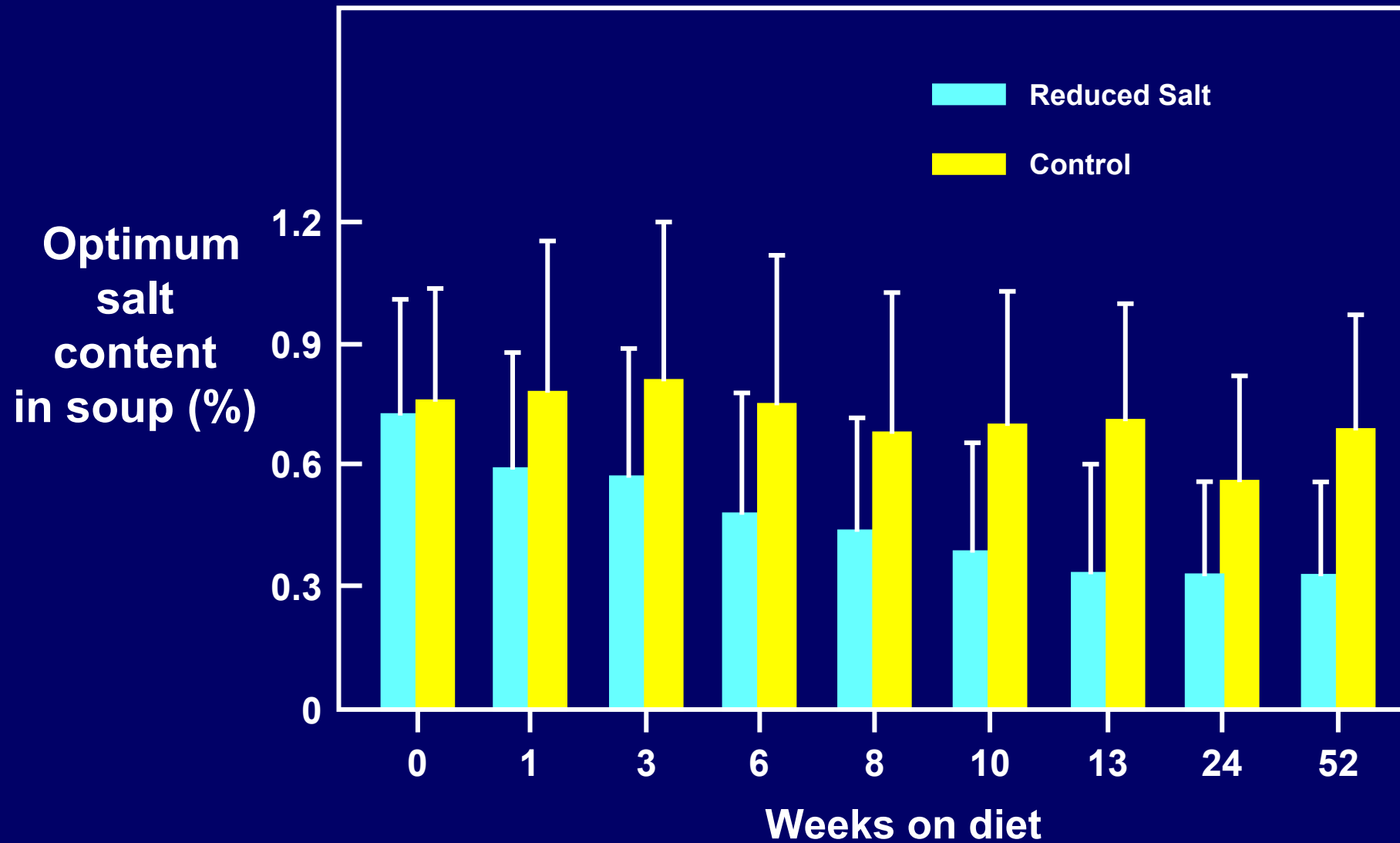


Mean score
on visual
analogue
scale (mm)





Longitudinal Study



- **Consistency of food**
- **Technology**
- **Safety**

Commercial

- 1. Salt makes unpalatable food edible at virtually no cost**
- 2. Habituation to high salt foods increases demand - Profit on these foods tends to be greater**
- 3. Increasing salt concentration in meat products increases water binding capacity by up to 20%**
- 4. Salt intake is the main drive to thirst and thereby increases soft drink, beer and mineral water consumption**

SALT

Producers (40% by value)

Profit

Food Industry

Highly Salted Processed Food
(many = seawater)
80% of intake

Meat products + Salt

Salt ↑

Salt ↑

Salt ↑

Water Binding ↑

Dependence on salty taste
(Salt Addiction)

Demand for very salty foods ↑

Thirst ↑

Weight No Cost ↑

Profit

Soft Drinks
Mineral Water ↑

Profit

Profit

Summary

- 1. A reduction in salt intake from 10-12 g/d to 5-6 g/d will have a major impact on cardiovascular disease**
- 2. 10% reduction per year in all foods where salt has been added for 6 years**
- 3. Label must be salt content per serving plus recommended max intake 6 g/d**
- 4. Public education**

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