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Salt and Mental Health.

There has been longstanding interest in the relationship between dietary sodium intake and blood pressure. This is important because blood pressure is a strong risk factor for heart disease. In a scientific paper just published, the investigators have examined salt intake in relation to change in mental functioning in older people.

The paper is 'in press' in the journal 'Neurobiology of Aging' and titled *Sodium intake and physical activity impact cognitive maintenance in older adults: the NuAge Study* by Alexandra Fiocco, Bryna Shatenstein, and colleagues.

The study was conducted over 3 years in Quebec, Canada on men and women aged 67 to 84 years. Dietary intake was measured at the beginning of the period by food frequency questionnaire, and the level of physical activity was assessed by a standard questionnaire as either high or low. Mental functioning, or cognitive performance, was measured on an annual basis, and change of cognitive performance was the factor of interest.

The scientists found that higher salt intake was related to a greater reduction in cognitive performance for the group with lower physical activity but not the group with higher physical activity.

These are preliminary results, and in the study sample the decline in cognitive performance over three years was the normal rate of decline with age. The

authors suggest that low sodium intake in older adults, especially in those with low physical activity, may help maintain brain health in later life.

We can expect work by other scientific teams to verify these findings.

Sodium intake is related to blood pressure in Australians.

A group of Australian investigators have demonstrated that people with higher sodium intake have higher blood pressure.

In a Melbourne based study of 783 individuals born in Italy, Greece or Australia/New Zealand, and an average age of 64 years, the average salt intake was estimated to be almost 9 grams a day.

When sodium intake (as represented by 24-hour urinary excretion) was compared to blood pressure measured some years prior, there was found to be a significant relationship.

Huggins CE, O'Reilly S, Brinkman M, Hodge A, Giles GG, English DR, Nowson CA. Relationship of urinary sodium and sodium-to-potassium ratio to blood pressure in older adults in Australia. Medical Journal of Australia 2011;195:128-32.

The relevance of workplace catering

What individuals put in their mouths is up to them, isn't it?

To a point – but people trying to maintain a low salt diet recognize the peril of selecting foods where the preparation is out of their control. In an ideal world, restaurant and airline food would be low in fat, sugar and salt - at the very least, there would be a choice of foods with their contents clearly identified.

Needless to say, it is not an ideal world. But here is an example of what can happen when the healthy food option is made the first food option.

The setting is two public sector hospitals in Ireland – Cork, as it happens. One underwent a 'catering makeover' in the staff canteen over two years while the other continued business as usual.

The 'catering makeover' was not massively difficult – foods high in salt fat and sugar were restricted, high salt ingredients and products were replaced with low salt options, salt was removed from cooking processes, and salt shakers were removed from the tables (small salt sachets were available at the cash register). Healthy diet information was displayed in the canteen area, sauces and accompaniments were not added to meals without the customer's consent. All desserts were fruit based, and staff members were encouraged to have extra salad and vegetables at no extra cost. Hardly rocket science – just good ideas, wouldn't you say?

To measure the difference the change in catering made to overall food intake, individuals were approached at the cash register in the staff canteen in both hospitals, and asked to complete a dietary questionnaire

about their entire dietary intake (at home and at work).

Fifty staff members from each hospital participated in the data collection with a low rate of refusal at each hospital.

The mean intake of total sugars, total fat, saturated fat, and salt was lower in respondents from the intervention hospital than those from the non-intervention hospital by 28%, 28%, 36% and 16% respectively (all $p < 0.001$ except for salt where $p = 0.046$). From the intervention hospital, 63% reported 'rarely or never' using salt in cooking, compared with 45% in the non-intervention hospital.

The reported dietary energy intake was also lower among respondents from the intervention hospital. The investigators noted that positive differences in dietary intake occurred due to changes in food eaten within the catered institution, but also carried over into other settings.

Of course, one would expect hospital staff to improve their dietary intake at work if given the opportunity. This study suggests that the supportive catering at work also helps with maintaining good dietary habits at home.

Eating the healthiest food is not hard when the healthier choices are the easier choices.

Geaney F, Harrington J, Fitzgerald AP, Perry IJ. The impact of a workplace catering initiative on dietary intakes of salt and other nutrients: a pilot study. Public Health Nutrition 2011;14:1345-49.

Dietary patterns among British adults

Sigrid Gibson and Margaret Ashwell examined dietary patterns among British adults to determine how they were associated with sodium intake. Their rationale for this was that dietary patterns give more insight into real-life conditions and may be easier to promote than recommendations relating to individual nutrients or foods.

The dietary information they used was collected in 2000/2001 from 1724 adults aged 19-64 years living in private households in Great Britain. Each subject had kept a 7 day weighed record.

Using principal components analysis, they identified 8 different patterns of food intake which they characterised as 'health conscious' (high in vegetables, fruit, water and fish); 'chips, meat products and eggs' (including sausages, meat pies and baked beans); 'bread, fat spread and cheese'; 'coffee/tea and cakes' (hot beverages, sugar, confectionery, biscuits and cakes); 'soft drinks and snacks' (soft drinks, pizza, pasta and savoury snacks); 'breakfast cereals and milk'; 'red meat and alcohol' (including sauces); and 'chicken and rice'.

Of course, each food pattern did not eat only the foods listed – the analysis groups similar dietary intakes together and the investigators give the different groups names that seem to cover the main characterising dietary features.

The highest sodium intake was associated with the 'bread, fat spread and cheese' pattern followed by the 'red meat and alcohol pattern'. The lowest sodium intakes were associated with the 'chicken and rice' pattern, the 'Tea/coffee and cakes' pattern and the 'health conscious' pattern.

Subsequent to this dietary survey, the British population achieved a reduction in mean salt intake from 9.5 grams a day to 8.6 grams a day. This was believed to have been achieved by lowering salt in processed foods as well as reduced use of discretionary salt.

Gibson S, Ashwell M. Public Health Nutrition 2011;14:1323-36.

What other countries are doing to reduce dietary salt intake.

A recent paper contrasted the approaches taken in Argentina, Chile and Canada to address overconsumption of dietary salt.

[Legowski B, Legetic B. Health Policy 2011;102:26-33]

This month Argentina will be featured:

Argentina had great success in eliminating trans fatty acids (TFA) from the food supply by working with the food industry and civil society, so salt was added to its TFA initiative in 2009. The Commission for the Reduction of Salt and TFA is working with food industry to evaluate the feasibility of reducing salt in food – starting with bread, processed meats and soups. The Commission recognises that salt has a functional role in foods (i.e. besides a salty taste) that needs to be maintained.

The Federation of Bakers' Industries (representing about 95% of all bread consumed – predominantly small businesses) began engaging with government in 2006 to reformulate products to reduce salt content. Since then, other major industry associations have joined the initiative.

Evaluation of the food reformulation programs will include monitoring the salt content of targeted foods, and monitoring of cardiovascular disease rates that are attributable to salt intake.

Argentina is running a national communications campaign with the message 'Menos sal, mas vida' ('Less salt, more life') as part of the 'Healthy Argentina' strategy. Food containing high levels of sodium (and/or cholesterol) must have nutrition information on its packaging. The Argentinean Parliament considered requiring packaged foods containing more than 30% of the daily recommended sodium intake to have a health warning - 'high salt consumption may be harmful for human health'.

Next month: Chile ...

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We are on the Web at
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Salt Skip News will
continue to be distributed
in hard copy in The BP
Monitor (QHA newsletter)

More on cost-effectiveness of cardiovascular disease prevention.

For the entire population of England and Wales, reducing dietary salt intake by 3 g/day would prevent approximately 30,000 cardiovascular events per year, with savings worth at least 40 million pounds.

An intervention that reduced cardiovascular events by just 1% would result in savings to the health service worth at least 30 million pounds a year.

The conclusion: any intervention that achieved even a modest population-wide reduction in any major cardiovascular risk factor would produce a net cost savings to the health service, as well as improving health.

Barton P, Andronis L, Briggs A, McPherson K, Capewell S. Effectiveness and cost effectiveness of cardiovascular disease prevention in whole populations: modelling study. British Medical Journal 2011;343:

Have you visited **AWASH** recently?

The website for the Australian Division of World Action on Salt and Health is:

www.AWASH.org.au

The AWASH website is always changing. Drop in and see what's new.

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