Reducing sodium content in everyday foods

A new report in Centres for Disease Control and Prevention (CDC) Vital Signs advises American food manufactures and restaurants to reduce the sodium content of their food and for the general population to buy food items with a lower sodium content in order to help combat heart disease in America.

US Dietary Guidelines suggest a maximum sodium intake of 2,300 mg per day. 90% of Americans consume more than this, about 3,300 mg per day. The CDC listed the top ten foods that people's sodium intake comes from; number one was bread and rolls. Although per slice bread may not have high sodium content it is likely to be eaten a few times a day therefore increasing and individual's sodium intake. The rest of the list was as follows: cold and cured meats, pizza, poultry (which, in shops, are often injected with sodium), soups, sandwiches, cheese, pasta dishes, meat dishes and snacks (such as crisps). 65% of sodium intake comes from shop bought food and 25% from restaurants, individuals should seek lower sodium food choices by reading nutrition labels in the shops or asking the restaurant about the sodium content of their dishes.

It is estimated that one in three adults in America has high blood pressure which in known to lead to heart disease and strokes if not reduced. This report suggested the following ways that this figure can be reduced:

- Food manufacturers should provide lower sodium foods and also provide information regarding the sodium content of food in the form of nutrition labelling;
- Food retailers should stock products with a lower sodium content;
- The Federal Government is already using the 'Million Hearts' initiative to help prevent a million heart attacks and strokes over the next 5 years. They are also improving data collection on sodium, including the amount of sodium people consume and people's knowledge, beliefs of health outcomes of high sodium intake;
- State and Local Health departments should develop resources that increase the public's knowledge of the results of a high sodium diet and about the high sodium content of processed foods; and
- Everyone should pay attention to the sodium content of the food they buy and seek healthier options, aiming for a diet high in fruit and vegetables.

The authors of the report believe there will be a few barriers to this goal; food manufacturers struggle to reduce sodium content without affecting the taste of their food and are therefore less inclined to do so. Also, foods that are generally deemed healthy may still have a high sodium content for example, cottage cheese, therefore people will really need to take their time to read nutrition labels when shopping.
The stories:

Medical News Today - More Salt In US Diet Comes From Bread And Rolls, Not Salty Snacks

Reuters - Bread a culprit in Americans eating too much salt

The report:

CDC - Where's the sodium? There's too much in many common foods
Diet can alter the brain regions that regulate body weight

This article discusses the role of biological factors in rising obesity rates and what strategies are needed to overcome this. The authors discuss the role of Leptin, a hormone that usually inhibits appetite has reduced activity when consuming a high-fat diet, and this can lead to increased food intake and weight gain. The authors suggest we need to find ways to change this biological system to make it in favour of losing weight and therefore reducing the need for will power.

One in three adults in America are overweight or obese and our biological systems can play a big part in weight management. In the past we would seek to eat high-fat foods in order to put on weight to help us survive in times when food was scarce. This is no longer so much of a problem but high calorie, high fat foods are readily available and research has found that a diet high in fat can lead to changes in the way the brain regulates our weight. The authors believe that further understanding of the function of the hormone Leptin and other molecular mechanisms in the brain will help to reduce the difficulty people experience in losing weight and in fact hope to make the brain function in favour of losing weight.

The story:

Medical News Today - What We Eat Can Alter The Brain Regions That Regulate Body Weight

The research:

Cell Metabolism - Central Nervous System Mechanisms Linking the Consumption of Palatable High-Fat Diets to the Defense of Greater Adiposity
Diet soda and cardiovascular risk

Researchers have found a link between daily consumption of diet soft drinks and cardiovascular events. After a baseline assessment of soft drink consumption a 10 year follow up showed participants who drank diet soft drinks daily were at an increased risk of cardiovascular events. Those who drank regular soft drinks daily had no increased risk.

Past evidence has shown that diet and regular soft drinks can lead to diabetes and metabolic syndrome. This study wanted to seek a relationship between soft drinks and cardiovascular events. 2564 participants (36% men) were asked about their diet including their soft drink consumption and food frequency. Soft drink consumption was categorised into none, light and daily.

After 10 years the participants were followed up, 59% had experienced a cardiovascular event. After controlling for age, sex, ethnicity, education, smoking, physical activity, alcohol consumption, BMI, total fat intake and sodium intake it was found that those who drank diet soft drinks daily were at an increased risk of a cardiovascular event compared to those who never drank soft drinks. Researchers found no increased risk of cardiovascular event for those who drank regular soft drinks.

Diet soft drinks have always been promoted as being the healthier option due to its lack of calories but recent research has found that it is linked to diabetes, metabolic syndrome and now also cardiovascular disease risk.

Researchers were unable to explain the relationship of these findings and suggest that further research is done before these results can be confirmed.

The story:

Medwire News - Frequent diet soft drink consumption may increase cardiovascular event risk

The research:

Diet Soft Drink Consumption is Associated with an Increased Risk of Vascular Events in the Northern Manhattan Study
American researchers studied whether there would be an increase in vegetable consumption in school cafeterias if photos of vegetables were placed in lunch tray compartments. Results showed that there was a significant increase in vegetable consumption but the amount still fell below government recommendations.

The US Government has recommended schools provide more fruit and vegetables in school meals in order to increase children’s consumption. Researchers wanted to see if they could increase consumption by placing pictures of fruit and vegetables in the lunch tray compartments. The study, reported in Scientific American, was conducted in one school with 800 students. The researchers assessed fruit and vegetable consumption on a control before the intervention of the lunch trays. The same meal was served on both days with the fruit and vegetable options being green beans, carrots, applesauce and orange slices. The lunch trays contained pictures of green beans and carrots. After lunch all the uneaten vegetables from the containers were weighed. There was an increase in the selection of green beans, from 6.3% to 14.8% and in carrots, from 11.6% to 36.8%. Although the amount of green beans eaten did not differ from the control day, there was an increase the amount of students opting for green beans. There was an increase in the consumption of carrots.

This shows that, although only a significant increase, placing photos of fruit and vegetables in lunch trays is a cheap and effective way to promote healthy eating in school meals. However the consumption was still under government recommendations and the study was only tested in one school over the period of two days.

The story:

Scientific American - Visual Cues Encourage Vegetable Consumption

The research:

JAMA - Photographs in Lunch Tray Compartments and Vegetable Consumption Among Children in Elementary School Cafeterias
A family intervention programme used to help young children with behavioural problems in low-income, minority families has also been found to help lower obesity rates. The study followed children over a 3-5 year period and assessed BMI at baseline and follow up. Children in the intervention group had a lower BMI at follow up compared to those in the control group.

The intervention used for this study was one already successful with families of children with behavioural problems; it helps parents to be more effective with their discipline and nurturing. At the age of 4, 186 low income minority children at risk of behavioural problems were enrolled onto the intervention programme. The children were randomly assigned to the family intervention programme or control group. Those in the intervention group spent two hours per week in parent and child group meetings. BMI and health behaviours were measured five years after first enrolling onto the intervention programme.

The results showed that children taking part in the intervention programme had significantly lower BMI at follow up compared to those in the control group, there was also significant difference in levels of physical activity and diet. Half of the children in the control group were obese by second grade compared to 24% in intervention group.

This shows that teaching effective parenting can help to prevent behavioural problems and reduce the likelihood of childhood obesity in low income minority children. Further studies would need to be performed in order to see whether the intervention would work for families of all backgrounds.

The story:

Medical News Today - Childhood Obesity Prevented With Positive Parenting

The research:

Paediatrics - Early Childhood Family Intervention and Long-term Obesity Prevention Among High-risk Minority Youth
Levels of trans-fats in bloodstream have decreased for Americans

In the first study of its kind researchers have looked into the level of trans-fatty acids in the bloodstream and compared levels from 2000 and 2009 (prior to Food & Drug Administration's trans-fats regulations and after). The comparison found that levels had decreased by 58%. This study was only performed on white adults and therefore further studies into trans-fatty acid blood levels in ethnic groups and children are also being performed.

Whilst trans-fatty acids can come from natural sources such as milk, it can also come from man-made sources such as partially hydrogenated vegetable oil. The consequences of this intake are known to increase risk of cholesterol and metabolic syndrome. The Food & Drug Administration (FDA) brought in regulations in 2003 requesting trans-fatty acid content to be labelled on foods and to limit its use in restaurants. The impact of this regulation was previously unknown.

229 adults were selected from the National Health and Nutrition Examination survey to examine trans-fatty acid blood levels before and after the Food & Drug Administration’s trans-fat regulations. Data was taken from the 2000 and 2009 survey. Results found that levels of trans-fatty acid in the blood have decreased by 58%. Christopher Portier, director of CDC's National Centre for Environmental Health stated a, “58% decline shows substantial progress that should help lower cardiovascular disease risk in adults.” He also felt further reduction in levels of trans-fatty acids should remain a public health goal.

This study has so far only been performed on white adults and other studies are being carried out to measure blood levels in other ethnic groups.

The stories:

Medical News Today - Big Drop In Trans-Fats In US Bloodstream

CDC - CDC study finds levels of trans-fatty acids in blood of U.S. white adults has decreased

The research:

JAMA - Levels of Plasma trans-Fatty Acids in Non-Hispanic White Adults in the United States in 2000 and 2009
Impact of breastfeeding on growth for babies exposed and unexposed to diabetes

Researchers assessed the impact breastfeeding had on BMI growth throughout childhood for babies who had been exposed to diabetes at gestation and those who were unexposed. Results found that babies who were breast fed for six months or more (exposed and unexposed) had a slower BMI growth compared to those who were breast fed for less than six months. Previous evidence has shown that babies exposed to diabetes or obesity at gestation are at a higher risk of obesity and metabolic disease, the results of this study suggest breastfeeding is an opportunity to counter-act this.

Participants were recruited from Exploring Perinatel Outcomes Among Children study (EPOCH). There were 94 diabetic mothers and 399 non-diabetic. Children’s BMI was regularly obtained from birth to 13 years old. Mothers were to report how long they breastfed for.

Diabetic mothers who breast fed for six months or more (the recommended breastfeeding duration) had children with a slower BMI growth than those diabetic and non-diabetic who breast fed their children for less than six months. Thus providing new evidence that breastfeeding can have significant effects in the long term on a child’s BMI. Children who had been exposed to diabetes and over nutrition at gestation can be given an opportunity to have their risk of obesity reduced. The researchers concluded that breastfeeding for the first six months or more of a child’s life should be strongly encouraged.

The story:

Medical News Today - For Offspring Of Diabetic Pregnancies Breastfeeding Can Reduce Risk Of Childhood Obesity

The research:

International Journal of Obesity - The impact of neonatal breast-feeding on growth trajectories of youth exposed and unexposed to diabetes in utero: the EPOCH Study
Data analysed from National Health Interview Survey has shown that over the past decade doctors' recommendations for their patients to engage in physical activity has increased by about 10% in the USA. In 2000 less than one in every four people who had visited their doctor in the past 12 months received exercise advice compared to one in three in 2010. This data suggests that health professionals are increasing their efforts to promote the health benefits of being physically active.

The Healthy People 2020 objectives aim to increase of time doctors spend on physical activity and exercise advice. It is known that doctors and other health professionals can influence people's health and activity levels and the aim of this study was to determine the number of individuals receiving exercise advice from their health professional over the previous 12 months. Participants were interviewed at home and the key question to assess exercise recommendations was, 'During the past 12 months did your doctor or other health professional recommend that you begin or continue to do any type of exercise or physical activity?' When this survey was conducted in 2000 less than one in four had been advised (22.6%) by 2010 it had risen to one in three (32.4%). There were varying differences amongst age, ethnicity and cardiovascular disease patients. The rate of participants over the age of 85 receiving exercise advice almost doubled from 2000-10 (15.3% to 28.9%). Participants aged 18-24 were the least likely to receive advice. Hispanic adults had the largest increase within ethnicity. In 2010 56.3% of adults with diabetes had received exercise advice compared to 35.8% of those with cancer.

This suggests that doctors and other health professionals are improving their efforts to encourage exercise and physical activity in line with the Healthy People 2020 objectives.

The story:

Medical News Today - Exercise Increasingly Recommended By Doctors, CDC

The research:

Trends in Adults Receiving a Recommendation for Exercise or Other Physical Activity From a Physician or Other Health Professional
The feel-good effects of being physically active

New research has found that people who engage in regular moderate to vigorous physical activity report feelings of excitement and enthusiasm more than those who are not so physically active. The data also showed that those who engaged in more physical activity than normal reported even higher feelings of enthusiasm and excitement. The results suggest that regular being active can improve mood and well-being.

Past evidence has shown that being physically active can enhance well-being and this study wanted to define the effects of being physically active in free time. 190 undergraduate students were asked to record the amount of time spent being physically active in their free time and do define their mood from a choice of four ‘feeling states’: pleasant-activated (excited/enthusiastic), pleasant-deactivated (satisfaction/relaxation), unpleasant-activated (anxiety/anger) or unpleasant-deactivated (depression). This daily diary was kept over an eight day period before being handed to the researchers to analyse results.

Students who were more physically active reported more pleasant-activated feelings, these feelings were heightened further on days when students were more physically active than normal. These results suggest that increase your daily activity levels can increase your well-being.

The story:

Medical News Today - Physical Activity Yields Feelings Of Excitement, Enthusiasm

The research:

JSEP - Unpacking the Feel-Good Effect of Free-Time Physical Activity: Between- and Within-Person Associations With Pleasant–Activated Feeling States
Offering smaller portions in restaurants may help reduce customer's calorie intake

A study performed in a Chinese restaurant asked customers if they would like to have a reduced portion size in order for them to save calories. Results found that people would accept the downsize and when they did they generally consumed less food overall. This has important implications for the role of portion-size in controlling people's calorie intake.

The introduction of labelling the calorie content of fast food items and on restaurant menus appears to have had little impact in reducing calorie intake. The researchers of this study wanted to explore other interventions that may help people reduce their calorie intake through activating their self-control.

Customers were asked by the service staff of the Chinese restaurant whether they would like to downsize their portion of rice/noodles before it was served to them. It was asked before being served as the researchers believe it is much easier to control your calorie intake before food is piled on your plate leaving people feeling obliged to eat it all. Customers were then informed of the calories they would save if they opted for a smaller portion. 21% of people accepted the offer to downsize before they were informed of the calories they would save and 14% opted for a smaller portion after hearing of the calories saved. Researchers found that those who had opted for a smaller portion did not compensate for the reduction by ordering other sides, starters or desserts and in fact the amount of food left uneaten was the same as those who had not chosen a smaller portion size.

The findings of this study have strong implication for an easy, cheap and effective way of getting people to control their portion sizes and therefore calorie intake by reducing amount as well as type of food consumed.

The story:

npr food blog - Does Offering Smaller Portions At Restaurants Help People Eat Less?

The research:

Health Affairs - Inviting Consumers To Downsize Fast-Food Portions Significantly Reduces Calorie Consumption
Air pollution linked to stroke

New research has found that currently acceptable levels of air pollution in America can increase the risk of ischemic stroke for someone already at risk. Results found that risk of ischemic stroke onset rose by 34% after a 24 hour period of being exposed to 'moderate' air pollution. The authors suggest that acceptable levels of air pollution should be reconsidered but further research into the relationship should be performed to confirm the findings.

The research, published in Archives of Internal Medicine, explained that although the relationship between air pollution and cardiovascular morbidity and mortality had already been confirmed, a relationship between air pollution standards and risk of ischemic stroke had not been confirmed. 1705 medical records of patients from a Boston hospital were assessed for hospital admission following ischemic stroke, time of symptom onset and clinical characteristics. Air pollution levels were measured through the central monitoring systems and assessed in the hours and days preceding each ischemic stroke event.

Risk of ischemic stroke onset rose 34% in the 24 hours after being exposed to ‘moderate’ air pollution compared to those who were exposed to ‘good’ levels. The risk was greatest between the 12-14th hours after exposure. Gregory Wellenius, author of this study, explained to Reuters that this may be due to air pollution affecting the body’s ability to regulate blood pressure and those at risk should “consider staying inside during high air pollution levels.”

Dr Peter Coleman of Stroke Association suggest in The Telegraph that “more research is needed before we can confirm air pollution is a definite risk factor for stroke.”

The story:

Reuters - Air pollution tied to stroke, memory loss

The Telegraph - Warning over air pollution link to stroke: research

The research:

Archives of Internal Medicine - Ambient Air Pollution and the Risk of Acute Ischemic Stroke
Primary-care based intervention for overweight adolescent girls

A new study published in Paediatrics tested a primary-care based intervention for overweight and obese adolescent girls. The girls attended weekly meetings with peers and primary-care physicians to discuss food diaries and how to deal with peer teasing. After 6 months girls in the intervention group had a significantly lower BMI compared to girls in the control group. The findings were small compared to other interventions but showed that primary-care interventions were successful for adolescent girls.

Family-based interventions are often used to help overweight or obese children, but as children grow into adolescents they become less influenced by their parents and more by their peers. This study wanted to see if a primary-care based intervention would help to reduce overweight and obese adolescent girls BMI and boost their body image confidence.

208 girls aged 12-17 classified as overweight or obese were randomly assigned to the intervention or a usual care group. The intervention group focussed on changing towards a healthier lifestyle and attending weekly meetings with peers and primary-care physicians discussing food diaries, coping with peer teasing and how to compact negative self talk. Parents also attended meetings on how to support their daughters.

195 girls made it to the 6 month follow up and 173 to the 12 month follow up. Researchers found that girls in the intervention group had a significantly reduced BMI compared to girls in the usual care group. The girls in the intervention group also reported a reduced frequency of fast-food intake and more family meals.

Lynne Bar, author of the study, told Medical News Today, “Our study shows that intervention programmes can help these girls achieve long-term success managing their weight and also learning new habits that will hopefully carry on into their adult life.” However, the changes were only slight compared to other interventions.

The story:

Medical News Today - Obese Teen Girls Helped To Manage Weight, Improve Body Image And Behavior By Primary Care Program

The research:

Paediatrics - A Primary Care–Based, Multicomponent Lifestyle Intervention for Overweight Adolescent Females