Antibiotics and paracetamol increase asthma risks

Phytonews

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Children who take antibiotics or paracetamol during infancy may be at greater risk of developing asthma, according to a study recently undertaken by researchers from Massey University's Centre for Public Health Research in Wellington[1].

The study, published in the *Journal of Epidemiology and Community Health*, measured the association between infections and medication use early in life, and the risk of asthma in children aged 6 to 7 years. A total of 1584 children who had been notified to public health services with serious infections when aged 0-4 years, were compared with 2539 children sampled from the general population. Postal questionnaires were completed by parents for both groups.

While little difference was measured in the prevalence of current wheezing between the childhood infections group and the general population group, in both groups a significant association was revealed for current wheezing and antibiotic or paracetamol use during the first year of life, and current wheezing and recent paracetamol use. The prevalence of current wheezing was found to be increased by 78% in children who had received antibiotics during the first year of life, and 38% by those who had received paracetamol during this period. An even greater association was revealed for recent paracetomol use, which more than doubled the risk of current wheezing.

The so-called "hygiene hypothesis" of asthma and atopy postulates a protective effect against asthma and atopy for infections during infancy[2,3], and various other studies implicate an increased asthma risk following antibiotic use early in life[4,5,6,7]. Studies in animals have also reported the development of allergic airways responses following antibiotic treatment[8]. Such a link between early childhood antibiotic use and asthma risks remains contentious however, and a recent American study failed to find evidence of an association with adult asthma[9]. In the Massey University study also, no difference in the prevalence of current wheezing between the childhood infections group and the general population group was found. This indicates that for more serious, notifiable infections at least, such asthma protective effects are unlikely to occur.

This well-designed New Zealand study provides further evidence of the risks of the use of certain drugs during infancy. Use of paracetamol among preschool children is also widespread in most developed countries, with a recent Norwegian study finding that 46% of such children had received this popular and readily available drug[10].

The high rates of usage of both antibiotics and paracetamol in infants and young children in most developed countries, is therefore of some concern, particularly in view of the Wellington study's findings and higher incidences of childhood asthma reported during recent years[11,12]. A positive relationship between levels of paracetamol usage and incidence of asthma, has also been indicated by preliminary data from an earlier study which examined the levels of use of this drug and asthma rates in different European countries[13].

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Brain diseases linked with chemical pollution

The number of people suffering from brain diseases such as Alzheimer's, Parkinson's and motor neurone disease, has risen dramatically in western countries in less than 20 years, and environmental factors are the likely cause according to authors of a recent report in the journal *Public Health*[1].

In the late 1970's, there were about 3,000 deaths a year from these conditions in England and Wales, but by the late 1990's, this had risen to around 10,000. The Public Health report looked at the incidence of brain diseases in Britain, the United States, Japan, Australia, Canada, France, Germany, Italy, the Netherlands and Spain from 1979 to 1997.

The team of researchers from Bournemouth and Southampton Universities compared brain disease and death rates for the first three years of the study period with the last three, and found that dementias (mainly Alzheimer's) more than trebled for men and rose nearly 90% among women in England and Wales. Increases in all other countries evaluated were also found.

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Brain diseases linked with chemical pollution

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For all other ailments such as Parkinson's and motor neurone disease, the number of cases for men and women rose about 50% between the late 1970's and late 1990's, in all countries except Japan. The increases seen in deaths from neurological disease was also noted to mirror death rates from cancer in western countries.

The team of researchers from Bournemouth and Southampton Universities compared brain disease and death rates for the first three years of the study period with the last three, and increased rates of dementia were found not only in England and Wales, but in all other countries evaluated. For all other ailments such as Parkinson's and motor neurone disease, the number of cases for men and women rose about 50% between the late 1970's and late 1990's, in all countries except Japan. The increases seen in deaths from neurological disease was also noted to mirror death rates from cancer in western countries.

While increased longevity and improved diagnoses of such neurological conditions could be regarded as being significant factors contributing to these higher rates of brain diseases, these factors were taken into account by the researchers. Death rates rather than numbers, were compared for each of the time periods involved. Genetic causes of this increased incidence were also ruled out, due to the fact that any changes to DNA would take hundreds of years to take effect.

The study's authors concluded that environmental factors were most likely to blame. These include increases in levels of pesticides, industrial effluents, domestic waste, exhaust fumes and other pollutants, according to the study's authors. Food was also identified as a major concern as this was regarded as providing the most obvious explanation for the exclusion of Japan from many of the trends observed in other countries. Neurological disease rates in Japanese have been shown to rise only when they move to other countries.

Colin Pritchard, the principal author of the study, issued a statement saying that "this has really scared me", and that "we have to look at the environment and ask ourselves what we are doing".

Other studies recently undertaken in the US have recently linked neurological disorders and cancer to pesticides[2,3]. This report adds to the growing number of studies which have pointed to serious concerns about chemical build-up in the environment and its potential effects on human health. Increased chemical contamination of the environment has been implicated also in the marked increases seen in the rates of subfertility, immune system disorders and behavioural conditions, as well as neurological disorders in recent decades[4,5,6,7,8,9,10].

The WWF (formerly the World Wildlife Fund) has named chemical pollution as one of the two great environmental threats to the world, alongside global warming[11].

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Comfrey ointment for ankle distorsions

Comfrey *(Symphytum officinale),* has long enjoyed a reputation as being highly effective in the treatment of bruises and sprains, Yet while anti-inflammatory and analgesic properties have been reported[1,2], efficacy for musculoskeletal injuries such as sprains and bruises has never been subject to evaluation by a well designed clinical trial. This situation has improved recently, with publication of results from a clinical trial involving topical application of comfrey ointment to patients suffering from unilateral acute ankle sprains[3].

The randomised trial involving 142 patients (mean age 31.8 years, 89% male) was performed in the German Sport University in Cologne, and four sports medicine and orthopaedic practices. All patients had an uncomplicated, acute unilateral ankle distorsion that had been incurred within the previous 6 hours. Application of comfrey ointment or a placebo ointment took place four times daily, for a period of eight days.

Measurement of tonometrically recorded pressure pain was used as the primary measure of efficacy, as well as various secondary target variables. These included ankle girth (swelling), pain scaling, evaluation of limitation of movement, the use of paracetamol, and physician's and patient's judgment of efficacy. Patients were examined on days 0, 4 and 7.

Compared to the placebo ointment treated group, a significantly stronger reduction in pressure pain was reported with comfrey ointment treatment. Reduction in swelling was also more rapid, as was pain upon movement, and joint mobility was increased. Observed adverse events were minor and included a single case of minor skin reddening in each of the placebo and comfrey treated groups. Tolerance of the comfrey ointment was evaluated as either good or excellent by 93% of the treated patients.

This placebo controlled clinical trial has thus shown an ointment made from comfrey extract to be an effective treatment for the treatment of ankle sprains incurred largely as a result of sporting activity. The authors also commented on the rapidity of improvement in pain reduction as a result of post-injury regular application of comfrey ointment.

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Calendula for radiotherapy-induced skin damage

Skin damage such as burns and the development of acute dermatitis is a common problem associated with radiotherapy treatment for various malignancies, yet topical treatments for this are somewhat limited. While herbal treatments such as Aloe vera have been shown to be effective for radiation-induced burns[1], treatments for other radiotherapy related skin disorders consist mainly of steroids or moisturising agents.

Topical application of Calendula has a long history, and is held in high regard by medical herbalists for a wide range of dermatological conditions, particularly inflammatory and infectious conditions such as minor cuts and grazes, and eczema[2,3]. Anti-inflammatory[4,5,6], antioxidant[7] and tissue regeneration properties[8], have been documented in the literature. Validation of the effectiveness of calendula in the treatment of human skin conditions however, has been poorly substantiated to date.

Results from a clinical trial recently published by French oncologists however, have found calendula to be highly effective for the prevention of acute dermatitis in women undergoing postoperative irradiation for breast cancer[9].

This study involved 254 patients who had been operated on for breast cancer and who were to receive postoperative radiation therapy. Patients were randomly allocated into two groups, one of whom received topical trolamine (considered in many institutions to be the reference topical agent), and the other calendula, on the irradiated area of skin following each session of radiotherapy. The primary end point was the occurrence of acute dermatitis of grade 2 or higher, while the occurrence of pain, the quantity of topical agent used, and patient satisfaction were also recorded[10].

In the group of 126 women who received treatment with the calendula ointment after each radiotherapy session, 41% subsequently developed acute dermatitis of grade 2 or higher. This was however much lower than in the group who received treatment with topical trolamine, in whom 63% developed acute dermatitis of grade 2 or higher. Additional benefits were also measured in those patients receiving calendula rather than trolamine, such as less frequent interruption of radiotherapy (which could thus be expected to improve its desired therapeutic outcome), and significantly reduced radiation-induced pain. While calendula was considered to be more difficult to apply, self-assessed satisfaction was greater.

The authors concluded that calendula is highly effective for the prevention of acute dermatitis of grade 2 or higher, and should be used for patients undergoing postoperative irradiation for breast cancer.

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American Ginseng effective to prevent acute respiratory illness in institutionalised older adults

Acute respiratory illness during the influenza season is a major concern for elderly people, and a common cause of death during the winter months. This has lead to preventative treatment with the influenza vaccine now being commonly recommended and implemented in most developed countries.

American ginseng *(Panax quinqefolium)* is a popular phytomedicine used like Chinese or Korean ginseng *(Panax ginseng)* by elderly people in many Asian countries, to help prevent age-related conditions such as fatigue. Immunomodulatory [1,2] and antioxidant[3,4,5] effects have been documented[6], and ginseng is also a popular constituent of various anti-asthmatic Chinese traditional medicines.

Potential benefits of an extract of American ginseng to prevent acute respiratory illness during the flu season, have now been evaluated by two randomised, double-blind, placebo-controlled trials conducted in an institutional setting (rest home) and assisted living environment in the U.S.[7]. The first trial involved an eight week treatment period and 89 subjects given either American ginseng or placebo during 2000, and the second trial a 12 week period of treatment involving 109 subjects during 2000 and 2001. Average ages were 81 and 83.5 respectively, and 74% of the participants were women. Approximately 90% of all participants had received influenza vaccine in each of the two years.

All subjects received twice daily treatment with the ginseng extract or placebo, and the incidence of viral acute respiratory illness was determined by laboratory-confirmed diagnosis of influenza or respiratory syncytial virus (RSV). Laboratory safety monitory was also undertaken at baseline then at 4, 8 or 12 weeks into the studies.

The results pooled from these two trials showed that the incidence of influenza illness was significantly greater in the placebo-treated groups (seven cases out of 101 subjects) than in the ginseng-treated groups (one case out of 97 subjects). An additional 2 subjects contracted RSV during placebo treatment, but none during ginseng treatment. Overall, an 89% reduction in relative risk of contracting acute respiratory illness was measured, and adverse effects minor, during treatment with American ginseng.

These clinical trials provide convincing data to support the use of American ginseng as an alternative to influenza vaccine, to prevent acute respiratory tract illness due to viral infection in the elderly, during the winter influenza season.

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Vioxx® withdrawn

The drug rofecoxib (Vioxx®), a cyclo-oxygenase-2 (COX-2) inhibitor used in the treatment of arthritis and painful conditions, has recently been withdrawn by its manufacturer due to concerns about its cardiovascular safety[1,2]. This decision was based on a three year study designed to evaluate the efficacy of rofecoxib versus placebo in preventing recurrence of colorectal polyps. This trial has now been stopped after results found the risk of cardiovascular adverse events such as myocardial infarction and cerebrovascular accidents to be doubled in patients using rofecoxib for more than 18 months.

The drug was one of the first COX-2 inhibitors to gain a product licence, and is manufactured by Merck Sharp & Dohme and marketed in more than 80 countries. At the time of its withdrawal an estimated 2 million people were taking it worldwide, mainly for arthritis, but also for menstrual pain and migraines. It has been available in New Zealand since January 2000, and an estimated 15,000 New Zealanders were taking the drug at a cost of $60 to $65 a month, at the time of the recall.

COX-2 inhibitors have become widely used in recent years as alternative anti-inflammatory agents to the older generation non-specific anti-inflammatory drugs (NSAID's) such as ibuprofen, ketoprofen and aspirin. Their lower association with adverse events on the gastrointestinal tract, has been a major reason for this trend. In New Zealand, both rofecoxib and another COX-2 inhibitor celecoxib were added to the Intensive Medicines Monitoring Programme in December 2000. The Medicines Adverse Reactions Committee (MARC) had previously reviewed all significant data but found that the evidence for an association between any of the COX-2 inhibitors and increased cardiovascular events was inconclusive. New Zealand users of these drugs were found to generally be older, have other co-morbidities, and were often taking several other medications that could have increased their risk of cardiovascular adverse events[2].

MARC is currently reviewing published data on cardiovascular events for all COX-2 inhibitors, along with New Zealand case reports of adverse reactions and any other available unpublished data. At this stage, while another study has suggested no association of celecoxib with congestive heart failure[3], concerns exist concerning the cardiovascular safety of all COX-2 inhibitor drugs[4], including those still available in New Zealand (celecoxib, etoricoxib, meloxicam, parecoxib and valdecoxib).

With the risk of heart attacks and strokes being already relatively high in the predominantly older population group taking these drugs, and the fact that long term use beyond 18 months is also common, these safety concerns for a class of drug which have become widely available over the past few years, seem serious indeed.

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Hypoglycaemic and antioxidant effects of Lycium barbarum

The red fruit of the Chinese vine *Lycium barbarum* (Wolfberry) is well known in Traditional Chinese medicine, and is often consumed as part of a healthy soup or medicinal beverage. A wide range of beneficial effects have been reported, including anti-aging, immunomodulatory, anticancer, anti-fatigue, male fertility enhancing and anti-diabetic properties[1,2,3,4,5,6].

Intake of antioxidants has been found to be associated with a low incidence of diabetes in the indigenous peoples of the boreal forest of Canada following a traditional lifestyle[7], and an imbalance between oxidative stress and antioxidative defense mechanisms in diabetics can result in cell and tissue damage and accelerate diabetic complications. These include hyperlipidaemia, hyperinsulinaemia, hypertension, atherosclerosis, and various neuropathies.

The plant kingdom has been widely searched for natural oral hypoglycaemic or hypolipidaemic agents in recent years, and more than 400 plants with glucose-lowering potential are known[5]. Lycium fruits have long been used to treat diabetes mellitus and related hyperlipidaemia, and evidence for both these activities has previously been documented[5].

Evaluation of the hypoglycaemic, hypolipidaemic and antioxidant effects of *Lycium barbarum* was recently undertaken by Chinese researchers using different preparations in diabetic rabbits and healthy mice[8]. These included a traditional water decoction, a methanolic fruit extract, and a crude polysaccharide extract, all of which were administered orally for seven to 10 days, accompanied by measurements of serum glucose, total cholesterol, high density lipoprotein cholesterol (HDL) and triglyceride levels.

All preparation types produced a reduction in blood glucose levels in diabetic but not healthy animals, as well as an improvement in glucose tolerance of diabetic rabbits. Hypolipidaemic effects were also measured, including decreased levels of total cholesterol and triglyceride levels, as well as an increase in HDL.

Polysaccharides were implicated as being associated with both hypoglycaemic and hypolipidaemic effects, although less so with antioxidant properties which were measured for each preparation *in vitro*. Strongest antioxidant activity was found for the crude methanolic and water extracts, and several antioxidant components such as carotene, ascorbic acid, thiamine, riboflavin, nicotinic acid, zeaxanthin and cryptoxanthin were identified.

This study shows the potential for *Lycium barbarum* for use as a natural oral hypoglycaemia and hypolipidaemic agent, and supports its traditional use as a food and medicinal treatment for diabetes mellitus.

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Pokeroot useful against diabetic glomerulopathy?

Diabetic glomerulopathy is a common long term consequence of chronic diabetes, and accumulation of extracellular matrix proteins in glomerular mesangial cells (GMC's) and proliferation of these cells is considered to play a key role in its development[1,2]. Lesion sites in diabetic kidneys are often characterised by increased numbers of GMC's and the amount of surrounding mesangial matrix[3]. Pathologically, GMC's cultured in high glucose medium exhibit the typical features of cellular proliferation and excessive production of extracellular matrix components that are characteristic of diabetic nephropathy in vivo[4,5]. Measurement of extracellular matrix proteins has therefore been proposed as a useful method to evaluate pharmacological activities thought to help prevent the progressive development of diabetic nephropathy.

Originally from north America, Pokeroot (*Phytolacca americana*) has long been found in other countries, and closely related species occur also in eastern Africa and Asia. While mainly known by western-trained phytotherapists as acting on the lymphatic system, this species and the closely related *Phytolacca acinosa* or *Phytolacca esculenta* have traditionally been used in oriental herbal medicine to treat system oedema, thirst and nephropathy[6]. Anticancer and anti-inflammatory activities, have also been reported[7,8].

Korean researchers recently evaluated the effects of *Phytolacca americana* and *Cordyceps sinensis* on modulation of mesangial proliferation induced by high ambient glucose, in cultured preparations of GMC's[9]. Raised glucose concentrations were shown to increase mesangial proliferation, but Phytolacca extracts effectively suppressed this response, in a similar manner to that seen for *Cordyceps sinensis*, known to inhibit GMC cell proliferation as a result of autoimmune diseases[10,11].

These effects appeared to be unrelated to a cytotoxic effect of Phytolacca, as no cell death was detected with the concentrations of extracts used. Inhibition of the excessive accumulation of mesangial collagen and fibronectin, was instead implicated. Subsequent work by the same researchers, identified the phytosterol compound alpha-spinasterol which was isolated from Phytolacca root as being particularly active as an inhibitor of glomerular mesangial cell proliferation caused by high ambient glucose[12].

The authors concluded that taken together, these results indicate that Phytolacca may be a promising agent for treating the development and progression of diabetic glomerulopathy.

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Lemon Balm anti-stress effects in humans

As reported in Phytonews 17, Recent research involving Lemon Balm (Melissa officinalis), has demonstrated a modulatory effect on mood cognitive performance following its acute administration to humans[1,2]. Positive findings in patients with mild to moderate Alzheimer's disease, have also been reported recently by Iranian researchers[3].

The influence of Lemon Balm on laboratory-induced psychological stress in humans, has now been assessed in a group of 18 healthy volunteers following single doses of this phytomedicine or placebo[4]. Participants were required to undertake four concurrent tasks regarded as a battery of stressors, in a version of the Defined Intensity Stressor Simulation (DISS) battery. Self-ratings of both calmness and alertness were undertaken during and immediately following these tests, conducted at one hour following Lemon Balm or placebo treatment.

Results showed that the negative effects of the DISS on mood, were reduced by Lemon Balm treatment, with significantly increased self-ratings of calmness and reduced self-ratings of alertness. An additional increase in the speed of mathematical processing, with no reduction in accuracy, was also observed following ingestion of the Lemon Balm tablets.

This laboratory study on humans adds to recent findings which implicate pronounced anti-stress effects for this phytomedicine, traditionally used as a mild sedative and calming agent.

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Kiwifruit for preventing heart disease

Heart disease is the leading cause of death in the world, killing nearly 17 million people each year. Fruits and vegetables are now recognised as being beneficial in cardiovascular disease, probably due at least in part to their content of antioxidant compounds which protect lipoproteins and vascular cells from oxidation. Additional effects such as reducing levels of plasma lipids such as LDL cholesterol and triglycerides, and inhibiting platelet aggregation, can also help protect against cardiovascular disease.

Kiwifruit is one of the most nutrient-dense fruits, containing more vitamins and minerals than 27 of the most commonly consumed fruits. These include high amounts of vitamin C, vitamin E and polyphenols[1,2], which may contribute to its various health benefits such as protection against cancer[3,4,5].

Researchers at the University of Oslo in Norway, have now evaluated the effects of kiwifruit on platelet activity and plasma lipids, in a randomised cross-over study in human volunteers[6].

Participants consumed two or three kiwifruit daily, accompanied by measurements of serum triglyceride and cholesterol levels, and the platelet aggregation response. Following the 28 day treatment period, the platelet aggregation response to collagen and ADP was 18% lower than the control group, while blood triglyceride levels were 15% less than controls. No effects were observed on levels of LDL cholesterol however.

These findings suggest that daily intake of two or three kiwifruit could be an effective alternative to the platelet inhibitor aspirin, to protect against cardiovascular disease. While platelet inhibitors such as aspirin have been shown to reduce the incidence of myocardial infarction, stroke and death from cardiovascular disease, complications such as gastric bleeding and inflammation, are frequently reported.

While the active compounds found in kiwifruit which produce these effects have not been identified, the mechanism of action as an inhibitor of platelet aggregation was noted to be quite different to that of aspirin.

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Anti-hypertensive effects of Olive Oil

Several studies have shown beneficial effects for olive oil consumption on blood lipids, and the Mediterranean diet has been associated with lower rates of cardiovascular mortality[1,2,3]. The use of olive leaf extracts for the treatment of hypertension is also popular particularly amongst European medical herbalists. Clinical evidence of hypotensive activity for olive products in hypertension however, has been lacking to date.

Results from two separate studies published in October, provide evidence that consumption of olive oil can reduce blood pressure. These include a large prospective study undertaken by Greek epidemiologists reported in the October issue of the American Journal of Clinical Nutrition[4], and a smaller Spanish study involving hypertensive elderly subjects[5].

A total of 20,343 participants in the Greek arm of the European Prospective Investigation into Cancer and Nutrition (EPIC) study, who had never previously received a diagnosis of hypertension, were included in the prospective study. A 10 point score which reflected adherence to the Mediterranean diet, as well as intake of individual dietary components and olive oil, was analysed. Arterial blood pressure and several sociodemographic, dietary and clinical variables as well as amount of physical activity were recorded at enrolment.

The Mediterranean diet score and intakes of olive oil, vegetables and fruit were found to be significantly inversely associated with both systolic and diastolic blood pressure. Mutual adjustment between olive oil and vegetables, often consumed together, subsequently indicated that olive oil had the dominant beneficial effect on arterial blood pressure in this population. The authors concluded that olive oil intake alone, was inversely associated with both systolic and diastolic blood pressure[4].

The Spanish study was a crossover clinical trial which involved sequential consumption by elderly patients of diets enriched in either sunflower oil or virgin olive oil for a 4 week period, followed by a 4 week washout period. A total of 31 medically treated hypertensive elderly patients and 31 normotensive elderly volunteers participated in this trial.

Virgin olive oil consumption was found to normalise systolic blood pressure in the hypertensive group (average 136 +/- 10mmHg) compared to sunflower oil consumption (average 150 +/-8mmHg). Unlike findings from studies involving younger patients however, no reduction in total and LDL-cholesterol was measured in the hypertensive patient group[5].

These recent European studies thus reveal blood pressure lowering properties of olive oil consumption, and it is likely that these contribute to its protective effect against cardiovascular disease.

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Small daily soy intake reduces cholesterol

A number of studies have suggested that intake of soy protein reduces blood cholesterol[1,2,3,4], and further evidence of this has come from results of a cross-sectional study by epidemiologists, involving 1033 pre and post-menopausal women selected from the Oxford arm of the European Prospective Investigation into Cancer and Nutrition[5]. This study investigated whether the intake of soyfoods as part of the regular diet influenced blood cholesterol concentrations, as opposed to supplementation with soy or isoflavone-rich products.

The study included 361 nonvegetarians, 570 vegetarians, and 102 vegans, whose dietary intake was assessed by using a food-frequency questionnaire, and plasma levels of total, LDL- and HDL-cholesterol concentrations measured.

The results of this study revealed an inverse association with soy intake and plasma levels of total and LDL-cholesterol concentrations, and with the ratio of total to HDL cholesterol, but not with HDL-cholesterol concentrations. Women who consumed at least 6g of soy protein per day were found to have mean plasma LDL-cholesterol levels 12.4% lower than in women who consumed less than 0.5g per day. The authors concluded that moderate intake of soyfoods as part of the regular diet is associated with favourable effects on blood cholesterol concentrations.

The age at which soy intake commenced, seems to have an influence on these potential benefits on blood cholesterol. This is implicated by other recent clinicals trial which found no evidence of hypocholesterolaemic effects in postmenopausal women who commenced use of a soy protein supplement with isoflavones after the age of 60[6,7]. The existence of other potential protective effects against cardiovascular disease such as improved vascular reactivity, has however been implicated by late commencement of dietary soy or isoflavones in such women[7].

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Bladderwrack anti-oestrogenic effects?

Oestrogen-dependent diseases such as cancers of the breast, endometrium and ovary have a lower incidence among Chinese and Japanese women than in Western populations, and many studies have associated dietary intake of soy with having a protective effect against such cancers[1,2,3]. Other possible dietary factors such as the relatively high consumption of seaweed, could also be linked with lower rates of breast cancer reported in Japanese women[4] , although this has been less explored to date.

A preliminary study involving three premenopausal women with abnormal menstrual cycles (menstrual cycles of <26 or >32 days in length; menstrual cycles consisting of >8 menstruating days; or anovulatory menstrual cycling) who were given daily doses of edible brown kelp (bladderwrack, *Fucus vesiculosus*) has recently taken place[5]. All three women had a history of hypermenorrhoea and dysmenorrhoea, and two had polymenorrhoea and endometriosis. All received a daily dose of either 700mg or 1.4grams of dried bladderwrack powder, for a 2 to 4 month period. This dose was chosen to fall within the range of reported dietary seaweed intakes (10-25%) of the total diet reported for Japanese populations[6,7].

Following kelp administration a significant increase in the length of menstrual cycles was observed in all women, while the amount of blood loss and duration of periods lessened. Mean baseline levels of 17ß-oestradiol were also reduced and mean levels of progesterone increased, in a dose dependent manner[5].

While a pilot study involving a small number of cases only, these effects thus implicate the existence of a potential anti-oestrogenic effect for bladderwrack, which may contribute to a possible protective effect against breast cancer.

Other actions of seaweed may be relevant to such potential effects however, such as its content of iodine and selenium[8]. Both seaweed and iodine have been reported to inhibit breast cancer development in a number of *in vitro* and animal studies[4,9,10,11].

An association between a variety of thyroid disorders and breast cancer has also been implicated[12], although it is unclear as to whether this perceived link is thyroid or iodine related, or occurs partly as a consequence of an immune response to the development of breast cancer.

These preliminary findings suggest that a regular intake of dietary bladderwrack may prolong the length of the menstrual cycle and exert anti-oestrogenic effects in pre-menopausal women. If so, such an action could have many potential consequences not only in reducing risk factors for hormone-related cancers in women, but also by exerting significant influences on several menstrual conditions.

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EU creates organic science network:

Europe's organic food and farming sector has received a number of boosts in recent months, with the adoption by the European Commission of an action plan and an additional £12 million (NZ$32 million) budget to promote the sector. The 21 point plan covers all aspects of organic trading, including rural development and improving farming standards to improving consumer information and the introduction of an EU-wide organic food label. The objective is to ensure and maintain, consumer trust in premium-priced organics, and to encourage organic farming in new EU Member countries in central and eastern Europe. "Promoting environmentally friendly quality products is one major objective of the new, reformed Common Agricultural Policy", according to Franz Fischler, Commissioner for Agriculture, Rural Development and Fisheries.

Organic production in the EU has grown steadily over the last 20 years, with the area of certified organic farm land increasing from just 100,000 hectares in 1985, to 4.4 million hectares or 3.3% of total farm land, by the end of 2002. Great disparities exist between the various EU nations however, and persuading farmers throughout the recently enlarged 25 nation bloc to convert to organic production is seen by the EU as a core means of sustaining growth in the agricultural sector over years to come.

While the EU organic market was worth around 10 billion Euros (NZ$19 billion) in 2002, growth has slowed in recent years. This follows a period of rapid growth however, especially in the wake of various food scares such as bovine spongiform encephalopathy (mad cow disease) and foot and mouth disease.

The EU plan is to ensure future growth both in the supply and market demand of organic food, through campaigns to target consumers, the food trade and foodservice industry to explain the merits of organic farming, and improve the availability of organic produce to EU consumers.

New research initiatives for the organics sector will include a project based at Newcastle University in the UK to test organic and conventional crops to compare factors such as taste and nutritional quality. Creation of an organic science network (CORE Organic, Coordination of European transnational research in organic food and farming), has also been announced. This new international partnership will aim to improve the quality of farming research, and encourage joint research programmes through networking of government ministries, research councils and other research funders from 11 countries.

Current combined annual spending of these 11 countries represented in the EU scheme on organic research is around €60 million (NZ$112 million), but this is set to increase with these new initiatives. The ultimate goal for this project is the creation of a well funded joint research programme among partner countries, providing European authorities with the ability to launch research projects on a much larger scale than currently possible.

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