



Nutriti^on I-Mag

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JULY/AUGUST 2021

THE ANXIETY PANDEMIC

Protocols for supporting clients with anxiety amid the Covid-19 pandemic

Digestive health in harmony

Managing digestion for overall health

RECIPES FOR WELLBEING INSPIRATION ♦ READER GIVEAWAYS ♦ IHCAN CONFERENCES – IN-PERSON EVENT DETAILS REVEALED
♦ MANAGING REFLUX ♦ CHOLESTEROL CONTROL IN CLINIC ♦ CHILDREN'S WELLNESS




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Welcome



A return to normality is certainly on the way, albeit at a slower pace with the announcement that the Government's roadmap is to be delayed by four weeks until July 19 at the earliest.

While this means certain restrictions remain in place, of course, Nutritional Therapists are allowed to operate, and after what has been an incredibly challenging time for the industry, allowing this important sector to be open for business and support people's health and wellbeing is critical.

And with practitioners operating, education also continues to be of paramount importance, and here at *Nutrition I-Mag*, we are passionate about encouraging our readers, students and recent graduates, to expand their learning horizons. One of the best ways of doing this is through the IHCAN Conference series. Usually held in person, during the pandemic, we transitioned to providing virtual conferences, which has provided practitioners with that crucial link to expert education and the ability to top up their CPD points. The series has been hugely popular this year and we are excited to be preparing for our first in person event in September. Places can be booked by **clicking here**, but don't delay as spaces are filling up fast. **Click here** to read more about what's planned for our September conference.

Don't forget that you can also earn CPD points from reading *Nutrition I-Mag* too; simply head to nutritionimag.com to register.

RACHEL SYMONDS, EDITOR

Rachel

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NUTRITION I-MAG GIVEAWAYS

OUR CONTRIBUTORS

Each issue, *Nutrition I-Mag* enjoys contributions from many leading authorities in the nutrition world.
This issue, our writers include:



Sue McGarrigle

Sue McGarrigle is a Clinical Nutritional Therapist and Naturopath and has practiced since 2001. Sue works for Bionutri, advising and helping practitioners in their various practice matters. As a lecturer to college and university students to Masters level, Sue has trained hundreds of healthcare and medical practitioners in many aspects of nutritional therapy. She writes as a regular contributor of specialist nutrition articles for magazines and newspapers and has been a guest speaker at various national conferences.



Katherine Pardo

Katherine Pardo BSc (Hons), Dip ION is Head of Nutrition & Education at Nutri Advanced. After beginning her career as a writer and editor for healthcare publications, Katherine trained as a Nutritional Therapist, graduating from London's Institute of Optimum Nutrition in 2001. She went on to practice as a Nutritional Therapist before becoming Nutrition Team Manager at Nutri Advanced, where she heads the team of nutritionists, writers and researchers who develop Nutri Advanced's range of innovative products, programmes and educational resources.



Katarzyna Maresz

Katarzyna Maresz holds a PhD in Biological Sciences from the Medical Faculty of the Jagiellonian University, Poland, and practiced at the Laboratory of Cellular and Molecular Immunology, Blood Research Institute in the US. Having published more than 30 scientific papers, she is involved in clinical trials with vitamin K2 in Poland and Europe. She has published peer-reviewed papers in the K2 field and presented at scientific meetings. Dr Maresz is President of the International Science and Health Foundation and scientific coordinator of the educational portal, VitaminK2.org



Hannah Braye

Hannah Braye NT, DipCNM mBANT, CNHC is a Nutritional Therapist, having studied at the College of Naturopathic Medicine (CNM), where she graduated with an award for outstanding performance. She is a member of BANT and listed on the Complementary and Natural Health Care Council (CNHC)'s approved accredited register. She is Head of Technical Advice at ADM Protexin, manufacturers of the Bio-Kult and Lepicol ranges.



Lindsay Powers

Lindsay Powers is a Nutritionist and works as Health Coach Manager at the supplement brand, Good Health Naturally.



Dr Marilyn Glenville PhD

Dr Marilyn Glenville PhD is one of the UK's leading Nutritionists. She is the author of a number of internationally bestselling books, including *Natural Solutions For Dementia and Alzheimer's*.

News Bites

A round-up of the news from the natural health industry.

STUDENTS HONoured WITH BIOCare GRADUATION AWARD



Shaping a healthier society

Nutrition I-Mag is delighted to announce the winners of the first BioCare Student Graduation Award, supporting the practitioners of tomorrow, every step of the way.

BioCare is passionate about providing education and support to practitioners, so it was a natural step to launch this new award this year, in partnership with *Nutrition I-Mag*, to continue its commitment to the practitioners of tomorrow. The industry support for the award has been great, with many of the nutrition education providers getting behind the award and promoting it to their students.

The BioCare Graduation Award 2021 winners were announced at the recent IHCAN Summit, and they are Amy Glanville, Elisa Mendes and Georgina Thomson, all nutrition students graduating this year. Each will receive £1,000 cash towards college fees or the set-up of their business, £250 worth of free BioCare products and one-to-one coaching, including support with resources for clinic practice, mentoring, guide to BioCare CPD accredited education and BioCare Essentials product training. The winners will also receive a print subscription to *IHCAN magazine* for one year, as well as lifetime subscription to *Nutrition I-Mag*.

Amy, a Nutrition Therapy Level 5 student at The School of Health, said: "Thank you to BioCare for this generous gift. It has given me great faith and motivation to get my Nutritional Therapy practice up and running. This bursary will enable me to invest in this new career and chapter of my life, and for that I am very grateful."

Elisa, studying Nutritional Therapy at CNM, added: "This award will enable me to kick off my business smoothly and establish my practice. The one-to-one coaching sessions will be a unique opportunity to continue my learning path with BioCare as a practitioner. I will likely start by focusing on establishing my digital presence and working on my website, which is even more crucial in the current times."

And Georgina Thomson, a student in Naturopathic Nutrition at CNM, went on: "I am delighted and privileged to have won the BioCare Graduation Award, which will be invaluable for helping me to become a naturopathic nutritional practitioner. The prospect of completing my studies and taking the next steps to set up a practice could be somewhat overwhelming, so I am really grateful for this extra support. I look forward to making the most of this amazing opportunity, thank you BioCare."

BioCare looks forward to supporting them in shaping a healthier society and thanked all those who entered; if you weren't one of the three winners, BioCare reminds it is still here for you, as trusted experts, as you make the transition from nutrition student

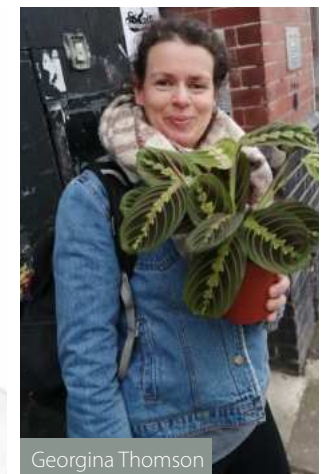
to practitioner. And don't forget you have a BioCare trade account that gives you access to benefits you can start using right away, even before graduating. This includes access to the expert Nutrition team, the Referral Scheme, where you recommend BioCare products and receive a referral payment, competitive trade discount, with 33 per cent off RRP, and free CPD approved nationwide education events. Find out more at www.biocare.co.uk



Amy Glanville



Elisa Mendes



Georgina Thomson

CNM celebrates with prestigious win



The College of Naturopathic Medicine (CNM) has been awarded a prestigious accolade.

CNM won the Best College Award from the *Integrative Healthcare & Applied Nutrition (IHCAN) Education Awards 2021*, which is the sister magazine to *Nutrition I-Mag*. The IHCAN Education Awards celebrates brands who go above and beyond to keep practitioners up-to-date with CPD accredited content, events and resources.

The accolade comes as CNM celebrates 23 years of training successful practitioners, having established the first CNM in London in 1998. The college offers students the option to study part-time, full-time, online or in-class at a range of locations across the UK and Ireland and its unmatched focus on clinical application and practice with teaching by highly qualified practicing lecturers ensures CNM can commit to training students to become successful practitioners in their chosen areas of study.

Hermann Keppler, CNM Founder and Principal, commented: "This accolade recognises CNM for its achievements in the industry and ongoing work to develop the field of natural medicine education. Thanks goes to everybody who voted for CNM and to our outstanding education and lecturer team."

SCALE OF IMPACT OF POOR DIET REVEALED IN NEW REPORT

A major new report has revealed that a lack of vegetables in the diet is associated with some 18,000 premature deaths in the UK.

The Peas Please initiative has released its latest *VEG FACTS 2021* report, which has found a third (29 per cent) of children aged five-10 eat less than one portion of veg a day and 77 per cent of adults eat less veg than the amount recommended in the *Eatwell Guide*.

A fifth (20 per cent) of children's vegetable intake now comes from foods classed as ultra-processed with pizza and baked beans accounting for 16 per cent of children's veg intake. Only six per cent of children aged 11-16 are currently meeting the government's *Eatwell Guide* recommendation for veg.

It was also found that just 1.9 per cent of food and drink advertising spend currently goes towards veg, compared to the 17.5 per cent that goes on confectionery.

The report continues to show that both adults and children are not consuming enough veg to meet the Government's *Eatwell Guide* recommendations and finds that this is likely to have a long-term impact on our health with diets that are low in vegetables and legumes being associated with just under 18,000 premature deaths a year in the UK.

It was also found that a number of children are at risk of micronutrient (vitamin and mineral deficiencies); 38 per cent of children aged 11-16 have magnesium intakes below the lowest recommended amount, and 21 per cent have intakes of vitamin A below the recommended amount. In the UK, vegetables contribute >10 per cent to intakes of these nutrients and could therefore be important sources of food which can contribute to driving up intakes of these essential nutrients.

The affordability of vegetables is also highlighted in the report as being a major factor in low consumption rates; calorie for calorie, foods high in sugar or fat are a third of the price of the cost of vegetables. If the population started to consume the recommended five a day of fruit and veg, it would increase the value of UK veg production by £261m. If this rose to seven a day of fruit and veg, it would add another £1bn to the UK economy.

Peas Please is a partnership with The Food Foundation, Food Sense Wales, Nourish Scotland, Belfast Food Network and Food NI. Since the project launched four years ago, it has delivered 162m additional portions of vegetables into our food system working across all four nations.

New brand identity revealed for vitamin K2 provider



NattoPharma has unveiled a new brand identity to emphasise its credentials in the vitamin K category.

NattoPharma's scientific leadership created the vitamin K2 category more than 20 years ago and has continued to shape understanding of this powerful nutrient's benefits. As the research takes shape confirming vitamin K2's expanding role supporting overall health, NattoPharma has now launched a new logo, brand identity, and website at www.nattopharma.com

NattoPharma CEO, Kjetil Ramsøy, explained: "Our science has always been a driver for brand owners to join with NattoPharma. Our MenaQ7 Vitamin K2 has been the source materials for more than 20 published human clinical trials, with more underway, confirming bone and

cardiovascular benefits. As we look to the future, we see nothing but promise and potential, particularly as the benefits of vitamin K2 are expanding, where again, we will lead in that discovery."

According to Andrew Green, NattoPharma Vice President of Global Marketing and Communications, who joined the team in October 2020, the time had come to highlight that while also creating a portal that would be as useful to existing partners as it was to new customers.

"Joining NattoPharma, I was struck by the company's story, the passionate pursuit of science, and the overriding mission to improve human health," he explained.

"The brand lift connects the decades of successful work creating the K2 category with the Japanese origins of K2. The new logo is born out of the Japanese concept of 'Ikigai', meaning 'purpose for being'. We use the four quadrants of this philosophy to express our connection to Mission, Passion, Vocation, and Profession, and encourage you to view the short brand video."

HFMA IN RUNNING FOR NATIONAL AWARD FOR COVID RESPONSE

The Health Food Manufacturers' Association (HFMA) has been shortlisted for two awards as part of its work during the Covid-19 pandemic.

The HFMA is shortlisted in the UK Trade Association of the Year Award, and the Best Lobbying Campaign or Advancement of a Cause During COVID-19. The Association Excellence Awards recognise the contribution that leading trade associations make on behalf of members and business sectors.

The HFMA is being recognised for its tireless work in lobbying Westminster and Whitehall to keep health food stores open during the pandemic and lockdowns as a priority for the nation's health. The organisation has also supported the sector through the post-Brexit transition, guiding its membership through the new regulatory environment.

Graham Keen, Executive Director at the HFMA, commented: "It is an honour to be shortlisted for the Association of the Year Award. It is a direct recognition of the contribution our very dedicated team has made to the industry throughout an extraordinary year. I'd like to thank all our employees, advisers, members, and Council for their continued support and engagement."



Brits make healthier diet switches, research reveals

Sixty two per cent of Britons have made a change to their diet to get healthier over the past year, the British Nutrition Foundation has revealed.

The survey, conducted online by YouGov as part of the foundation's recent Healthy Eating Week, looks at the changes people have made to their diet and lifestyle over the last year of the pandemic and also found that one third of people (33 per cent) have included more fruits and vegetables in their diets, 29 per cent started cooking healthier meals and 32 per cent have been drinking more water.

Furthermore, 64 per cent of respondents say they check nutritional information food labels when grocery shopping, 41 per cent of people look at labels

particularly when buying a new food item, and 57 per cent say they have made changes to cook more healthily since May 2020. In addition, half the respondents (50 per cent) mention starting a new activity to stay active over the last year.

Roy Ballam, Managing Director and Head of Education at the British Nutrition Foundation, commented: "We've all had such a challenging year, so it's really positive to see that so many people have made healthy changes to their diets and lifestyles. There is no 'one size fits all' approach to a healthy diet and lifestyle - everyone is different, but the principles of healthy eating can be adapted to suit you."

In Research

Nutrition I-Mag rounds up the latest research studies in the nutrition world.



Researchers confirm echinacea acts as natural antiviral

A new study has found that *Echinacea purpurea* reduces antibiotic use in children with respiratory tract infections.

The randomised, blind, controlled clinical trial assessed the effectiveness of fresh extract of *Echinacea purpurea* in reducing antibiotic use to treat symptoms of respiratory tract infections (RTIs). Published in the *European Journal of Medical Research*, researchers found that a fresh extract of *Echinacea purpurea* (Echinaforce) was effective in the treatment of respiratory tract infections (RTIs) symptoms, resulting in the reduction of antibiotic use¹

The study was conducted over a period of four months and assessed 203 children aged between four-12, each of which received either 400mg of freshly harvested *Echinacea purpurea* liquid extract or 50mg of vitamin C as a control. Parents assessed respiratory symptoms in their children via e-diaries and collected nasopharyngeal secretions for screening of respiratory pathogens.

It was found that treatment with a fresh herb extract of *Echinacea*

purpurea prevented 32.5 per cent of respiratory tract infections compared to the vitamin C control group, reduced the risk of secondary bacterial complications, such as bronchitis, sinusitis and otitis media by 65 per cent compared to vitamin C, and reduced antibiotic use by 76.3 per cent compared to the vitamin C control group. It was also found that 80.2 per cent fewer days of antibiotic treatment was experienced by the group treated with *Echinacea purpurea* than the vitamin C control group.

Overall, the new study showed the benefits of *Echinacea purpurea* use for long-term prevention of RTIs, reduction of number of days with a cold, influenza and other enveloped viruses, reduction of RTI complications, and reduction in antibiotic use.

The *Echinacea purpurea* extract was shown to be very well tolerated, with a good safety profile. There were far fewer adverse events in the *Echinacea purpurea* group than in the vitamin C group, probably due to the reduced number of RTI complications.

Immunologist, Dr Ross Walton, commented: "In children, a significant

percentage of respiratory viral infections lead to the development of secondary bacterial complications, substantiating antibiotic prescription. With the growing global concern surrounding overreliance on antibiotics, the subsequent impact of this on their current and future efficacy and a stemmed flow of novel antibiotics in development, a strategy aimed at targeting the upstream, initiating viral event bears sound immunological and clinical rationale.

"Through reducing disease pathology caused by primary respiratory viral infection, we may not only achieve an important limiting of exposure to antibiotics, protecting efficacy and reducing resistance emergence, but also help suppress onward transmission of RTIs to the adults and educators who care for the children. Supplementation of *Echinacea purpurea* at the first sign of RTI symptoms in children may play an important and cost-effective role in the self-management of RTIs and could have the propensity to offer long-term global health pay-offs by lowering antibiotic reliance. This would work towards preservation of antibiotic efficacy for when urgently required."



Clinical trial announced for vitamin K2 and cardiovascular impact

It has been announced that a new Greek study will use the highest dosage of vitamin K2 as MK-7 so far.

NattoPharma has announced that a new 1.5-year clinical trial using MenaQ7 Vitamin K2 as MK-7 has been registered on ClinicalTrials.gov. The trial will examine the cardiovascular impact in a patient population and will use the highest dosage of K2 as MK-7 to date: 1mg daily.

The new multi-centre, placebo-controlled, randomised, open-label intervention clinical trial, 'The Effect of Vitamin K2 Supplementation on Arterial Stiffness and Cardiovascular Events in PERitoneal DIALysis (VIKIPEDIA)', will be conducted with Peritoneal Dialysis (PD) patients. The investigators at Aristotle University of Thessaloniki, in Greece, will study the effect of K2 supplementation (through normalisation of dp-ucMGP) on arterial stiffness and the occurrence of cardiovascular events.

Chronic kidney disease (CKD) is a state of progressive vascular calcification and cardiovascular disease. End stage kidney disease patients receive renal replacement therapy either by hemodialysis or by PD, according to lead researcher, Stefanos Roumeliotis, MD, PhD.

"Several studies have shown that hemodialysis patients have vitamin K depletion and accelerated vascular calcification, and this finding led to the initiation of several randomised controlled trials exploring the effect of vitamin K2 supplementation on vascular calcification in hemodialysis

patients," he explained.

"VIKIPEDIA is the first study to assess whether high dosage of Menaquinone-7 could improve arterial stiffness, mortality, cardiovascular disease, 24-hour ambulatory blood pressure and dialysis efficacy in patients with PD. MenaQ7 was chosen to be used in the study because the compound showed its efficacy to improve vitamin K status in many clinical trials with kidney patients."

Dr Hogne Vik, Chief Medical Officer with NattoPharma, added: "VIKIPEDIA represents two important firsts: it will be the first trial in PD patients, and the first time this high dosage of vitamin K2 as MK-7 will be used, which supports high safety profile of this nutrient. We are thrilled because this study will add to the already substantial evidence that MenaQ7 Vitamin K2 is an important cardiovascular-support nutrient, and it presents great hope for an at-risk patient population."

The study is scheduled to start in September 2021. The researchers will collaborate with long-time NattoPharma research partner, Maastricht University, to evaluate vitamin K status.



Vitamin D and depression examined in new research

Further research is needed to confirm the link between vitamin D deficiency and depression.

According to researchers writing in the journal, *Nutrients*, depression and vitamin D deficiency are major public health problems and existing literature indicates the complex relationship between the two.

The purpose of the study was to examine whether this relationship is moderated or mediated by inflammation and so a sample from the LIFE-Adult-Study was investigated, for whom depressive symptoms were assessed via the German version of CES-D scale and serum 25-hydroxyvitamin D (25(OH)D) levels and inflammatory markers (IL-6 and CRP levels, WBC count) were quantified.

It was found there was a significant negative correlation between CES-D and 25(OH)D, and positive associations between inflammatory markers and CES-D scores. Only WBC partially mediated the association between 25(OH)D levels and depressive symptoms both in a simple mediation model and a model including covariates. None of the inflammatory markers showed a moderation effect on the association between 25(OH)D levels and depressive symptoms.

In conclusion, the researchers commented: "This present work highlighted the complex relationship between vitamin D, depressive symptoms and inflammation. Future studies are needed to examine the effect of vitamin D supplementation on inflammation and depressive symptomatology for causality assessment."

Study finds saffron reduces menopause symptoms

The psychological symptoms related to the menopause may be eased with saffron, according to new research.

The researchers, writing in the *Journal of Menopausal Medicine*, explained that there is preliminary evidence suggesting saffron may effectively treat menopausal symptoms and so they set out to examine the tolerability and efficacy of a standardised saffron extract on menopausal complaints in perimenopausal women.

In the 12-week, parallel-group, double-blind, randomised controlled trial, 86 perimenopausal women experiencing menopausal complaints received either a placebo or 14mg of a saffron extract twice daily. Outcome measures included the Greene Climacteric Scale (GCS), Positive and Negative Affect Schedule (PANAS), and Short Form-36 Health Survey (SF-36).

Based on data collected from 82 participants, saffron was associated with greater improvements in mood and psychological symptoms

compared to the placebo. Results from the GCS revealed a significantly greater reduction in the GCS psychological score, characterised by a 33 per cent reduction in anxiety and a 32 per cent reduction in depression scores from baseline to week 12. There was also a significantly greater reduction in the PANAS negative affect score compared to the placebo. However, compared to the placebo, saffron was not associated with greater improvements in vasomotor symptoms, somatic symptoms, or other quality of life measures. Saffron intake was well tolerated, with no reported major adverse events.

The research concluded: "The saffron extract, affron, administered for 12 weeks at a dose of 14mg twice daily was associated with greater improvements in psychological symptoms. Further studies in perimenopausal women presenting with varying severity of menopausal symptoms, using different doses of saffron, will be useful to examine in future clinical trials."



New to market

Nutrition I-Mag brings you the latest product developments in the nutrition world.

Immune additions for Higher Nature

Higher Nature has expanded its Body Health range with the launch of Immune Effervescent.

Featuring three immune essentials in one, the new product is a natural, elderberry flavoured drink, containing vitamin C, zinc and a high-strength active form of vitamin D3.

Sold in tubes of 20, and naturally flavoured with black elderberry, the effervescent tablets are free from artificial colours, flavourings or preservatives and suitable for vegetarians and vegans.

Amy Power, Brand Manager at Higher Nature, commented: "As social distancing guidelines start to relax, supporting the immune system is key. With high strength vitamin C, zinc and vitamin D, our Immune Effervescent contains all the heroes of the immune system in their active forms for comprehensive immune support. It is ideal for anyone looking to boost their defences and can be taken when either feeling run down or as an everyday staple."



Pregnancy focus with new Bio-Kult launch

Bio-Kult has grown its portfolio with the addition of Pregnéa.

The new supplement has been specifically developed with expectant and new mums in mind, a scientifically developed, multi-action formulation with six live bacterial cultures, essential vitamins and minerals to support women through pregnancy, from pre-conception to beyond birth.

The brand points out that it is particularly important during pregnancy to support your digestive system, as over 70 per cent of your immune cells live in the gut, therefore, supporting your digestive system could also help to support your immune system.

Developed by experts, Bio-Kult Pregnéa has selected specific strains from the original Bio-Kult Advanced formulation and added vitamins and minerals particularly important during pregnancy. Taken daily, two capsules contain *Lactobacillus plantarum* PXN 47, *Bifidobacterium longum* PXN 30, *Lactobacillus rhamnosus* PXN 54 and *Lactobacillus acidophilus* PXN 35. It also contains *Bifidobacterium bifidum* PXN 23 and *Lactobacillus delbrueckii ssp. bulgaricus* PXN 39, along with 400mcg folic acid (as the more bioavailable 5-MTHF form) and 10mcg vitamin D.



MAKEOVER FOR OPTIBAC

A brand refresh has been unveiled by OptiBac Probiotics.

The new look has been introduced at the same time as the brand ditches the use of plastic containers and its products are renamed.

OptiBac says it has successfully reduced plastic by 96 per cent by swapping from plastic containers to amber glass jars with aluminium lids for all its capsule products. This allows for wider recycling without compromising the delicate nature of the all-important friendly bacteria inside.

OptiBac Probiotics engaged brand business, 1HQ Global, to reposition the brand, redefine the use of structural packaging for sustainable impact and create new front of pack illustrations to personify OptiBac Probiotics' mission to help people feel their best. 1HQ Global devised a series of elegant line drawn figures in uplifting yoga poses, whilst retaining the signature and much-loved rainbow colour scheme.



There are also changes to individual product names to help aid understanding, for example, 'For your baby' is changing to Baby Drops this summer, and 'For daily immunity' is going to be called Immune Support.

G&G FOCUSES ON URINARY SUPPORT

UT Plus is the latest addition to the product line-up at G&G Vitamins.

The vegan blend of vitamins and plant-based ingredients has been developed for the urinary tract and is free from allergens.

Ingredients include D-mannose, vitamin C, cranberry extract, nettle leaf extract, sage leaf and vitamin B6.



THE IHCAN CONFERENCES ARE BACK

We are delighted to announce the first live IHCAN Conference will be taking place in September.

The first live in-person IHCAN Conference since the start of the pandemic has been confirmed for September.

The first IHCAN Conference+ was originally scheduled for March 2020 but was postponed due to the Covid-19 pandemic. We can now confirm IHCAN Conference+ will take place at 155 Bishopsgate, in central London, on September 18, featuring the education you're used to from IHCAN events but in a bigger venue with even more exhibitors.



Back by popular demand

'Low-carb GP', Dr David Unwin, FRCGP, the doctor who is revolutionising the NHS's treatment of diabetes with nutrition – in many cases reversing the disease – is back by popular demand to share his inspirational experiences at the sharp end of an NHS practice.

Neuroscientist, Dr Elisabeth Philipps, PhD, backs up evidence-based research information with experience as an IFM-recognised functional medicine practitioner. Her presentation in 2019 on CBD and gut health provoked the most questions we've ever had from a conference audience: she is back with more answers!

In line with Dr Unwin's discussion on the low carbohydrate diet for NIDDM and Dr Philipps' discussion on the cannabinoid system/gut brain link, Anne Pemberton will be exploring what the evidence tells us about genetic single nucleotide polymorphisms associated with the low carbohydrate approach and diabetes. Do our genes tell us if we will be successful with a low carb approach? How do we know which clients will benefit more? Do our genes determine or predispose us to NIDDM and obesity?

For the full details from each talk, visit www.ihcanconferences.co.uk/September-2021.

Exhibitor excitement

As well as the conference, the event represents our first in person exhibition too, featuring some of the UK's leading suppliers showcasing their new products and special show-only offers. This includes:

- | | |
|-----------------------------------|---------------------------|
| ■ Bio-Kult | ■ NaturesPlus |
| ■ BioMedica | ■ Nordic Laboratories |
| ■ Clasado | ■ OptiBac |
| ■ HealthAid | ■ Pharma Nord |
| ■ Hifas da Terra | ■ Rio Health |
| ■ Institute for Optimum Nutrition | ■ Solgar UK |
| ■ Invivo Clinical | ■ Sun Chlorella |
| ■ Kinetic Enterprises | ■ ULU |
| | ■ Vitae Health Innovation |



A SNEAK PEAK

Exclusive to *Nutrition I-Mag* readers, below is a recording of part one of Dr Elisabeth Philipps' keynote talk from the November 2019 IH CAN Conference, presenting 'The role of the Endocannabinoid System and CBD in Health and Disease'

Missed the IH CAN Summit?

Featuring six headline speakers – including Dr Dale Bredesen, Dr Cheryl Burdette, Dr Linda Isaacs - and eight breakout sessions, last month's IH CAN Summit, organised by the team behind the IH CAN Conferences, is undeniably the biggest event in the integrative health calendar.

Couldn't make the date? Don't worry, the post-show downloads – including the video and presentations from every session – can be purchased online at www.ihcansummit.co.uk

Managing digestion naturally

Focus on digestive health with this range from leading supplement brand, NaturesPlus.

A healthy gut is vital for the health of the whole body, including the brain. Studies suggest those people with a greater diversity of microbiota, have stronger immune systems and lower risk of depression.

It is estimated that 40 per cent of the UK population has at least one digestive symptom at any one time. Symptoms can last several years or be lifelong. These symptoms vary widely but include abdominal discomfort or pain, cramping or bloating, acid reflux/heartburn, haemorrhoids, anal fissures, excess gas, indigestion, changes in patterns of bowel movement, diarrhoea alternating with constipation and mucus in the stool.

Digestive conditions such as GERD, IBS, IBD, SIBO or even stress related flare-ups can occur at any time. They can be life altering, preventing people from leading their lives as normal, reducing quality of life and affecting social activities. This, in turn, often leads to low mood, low self-esteem and even depression.

Possible causes of IBS could be bacterial infections such as gastroenteritis and *H. pylori* and imbalances in the gut microbiome. There is no cure as such for IBS, but it can be managed with lifestyle adaptation and avoiding known triggers such as stress, caffeine, spicy foods and sweeteners such as xylitol and stevia. Increasing gut microflora by taking probiotics and eating a wide variety of plants (this will also help increase your fibre intake), taking digestive enzymes with meals, reducing inflammation, getting enough sleep, managing stress and gradually increasing fibre in your diet can all be helpful in managing symptoms and avoiding flare-ups, but IBS and other digestive disorders can be as individual as the person it affects and there is not a clear-cut regime to follow that suits everyone.

Another way to care for your digestive system and restore some harmony is to take NaturesPlus GI Nutra.

GI NUTRA TABLETS

For everyday use and digestive maintenance, we recommend GI Nutra tablets, featuring:

■ **Probiotic supplement:** GI Nutra's clinically designed formulation contains a unique blend of prebiotics, probiotics, enzymes, and supportive

nutrients for a healthy gastrointestinal function.

■ **Beyond digestive aid:** The formula may counter occasional heartburn, reflux, gas, bloating, and other digestive discomfort.

■ **Purity:** GI Nutra is hypoallergenic, gluten-free, vegetarian, and free from artificial colours and preservatives – helping to unlock the energy and health-boosting nutrition of foods.

NaturesPlus GI Nutra Bi-Layered Tablets feature a fast-release layer to optimise digestive comfort and energy, while the slow-release layer cleanses and revitalises. This outstanding formula starts with 1000mg L-glutamine, enzyme-rich and alkalising whole foods, prebiotics and probiotics. GI Nutra also supplies calcium for normal function of digestive enzymes, and zinc, which protects cells from oxidative stress, and contributes to normal acid-base metabolism and metabolism of carbohydrates and fatty acids, to help you on your way towards digestion perfection.

GI NUTRA POWDER

For an intensive but soothing gut formula, there's GI Nutra Total Digestive Wellness Fast Acting Powder.

It goes far beyond the many microflora, enzyme, and gut health products on the market today. It features the nutritional support of 4000mg of L-glutamine, the recommended level for optimal results, highly active microflora, whole food enzymes, prebiotic fibre and other essential co-factors, as well as supplying soothing ginger and turmeric.

GI Nutra delivers powerful synergistic activity to ensure total digestive wellness. GI Nutra Total Digestive Wellness Fast Acting Powder supplies calcium for normal function of digestive enzymes. GI Nutra also provides zinc, which contributes to the normal acid-base metabolism and the normal metabolism of macronutrients, carbohydrates and fatty acids, while



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protecting cells from oxidative stress. Vitamins E and C, as well as selenium, contribute to the protection of cells from oxidative stress. Lactase enzyme improves lactose digestion in individuals who have difficulty digesting lactose.

Simply mix a scoop into water and enjoy the pleasant, natural ginger flavour. Many people like to take it before bed as our digestive systems rest and repair themselves whilst we sleep.

NaturesPlus.



Action against anxiety

The Covid-19 lockdown has resulted in a vast increase in rates of anxiety. And, with changing diets and increased consumption of alcohol potentially exacerbating things, nutritional therapy can act as an important support, as our experts explain.

The last year has been one like no other, with repeated lockdowns and life under huge restriction triggering a range of health – physical and mental – concerns. And despite lockdowns slowly lifting, these issues are not suddenly going to disappear.

Indeed, the legacy of lockdown includes huge numbers of people suffering with anxiety, a condition that was already on the rise prior to the emergence of the pandemic. It is an issue of huge concern, and one which can involve other associated conditions.

Nutritional Therapist, Hannah Braye, Head of Technical Advice at ADM Protexin, manufacturers of the Bio-Kult and Lepicol brands, pointed out the true scale of issues.

“The presence of anxiety symptoms is very common in the general population as a response to stressful situations of daily life, as part of a mental disorder, or secondary to other medical conditions.¹ Among all mental



diseases, anxiety disorders are the most common.² According to large population-based surveys, up to 33.7 per cent of the population are thought to be affected by an anxiety disorder during their lifetime.³ Social anxiety disorder is the most common anxiety disorder⁴ with a current worldwide prevalence of five to 10 per cent and a lifetime prevalence of 8.4 per cent to 15 per cent.⁵

“In addition, it’s likely that many people will have experienced an increase in anxiety levels over recent months in light of the financial, social, relational and other strains of the pandemic. The effects of the pandemic on the prevalence of anxiety disorders are still yet to be assessed.”

Dr Marilyn Glenville PhD is one of the UK’s leading nutritionists and author of *Natural Solutions For Dementia and Alzheimer’s*. She added: “There has definitely been a rise in people seeking solutions for anxiety this year, where they have felt unable to cope and been overwhelmed. Because their sense of ‘what is normal’ has been changing day to day, it can make people feel very anxious because what has been happening in the world is out of their control. Added to this uncertainty is the financial pressure of people worried about losing their jobs and their homes. And this level of anxiety can affect what choices people make around their diet and also alcohol intake, which can leave people stuck in a vicious cycle.”



CLIENT ASSESSMENT

When managing clients seeking support for anxiety, the experts first point out the range of signs to be aware of, and what causes them.

“Common signs of anxiety include excessive worrying, agitation, restlessness, fatigue, poor concentration, irritability, panic attacks, and irrational fears. All of these can have a huge knock-on effect on other areas of health,” commented Catherine Gorman, Nutritionist and Health Coach at Good Health Naturally.

“Anxiety activates the body’s stress response system, putting it into fight or flight mode, increasing the production of cortisol and adrenaline. These stress hormones raise glucose in the blood, increase heart rate, and suppress digestion and immunity. In the short term, this means the brain gets more oxygen, and the body is prepared to respond to an intense situation. With occasional stress, the body returns to normal, but if there is chronic anxiety, and the stress response lasts a long time, the body never gets the signal to return to normal functioning.”

Braye continued: “Anxiety is a normal and necessary basic emotion designed to keep us safe. However, anxiety is considered an illness when it arises in the absence of any threat, or in disproportionate relation to a threat, and keeps the affected individual from leading a normal life.”⁹

“The anxiety disorders encompass a range of different conditions that can affect sufferers in a variety of different ways. They are classified in the International Classification of Diseases (ICD-10)¹⁰ as the phobic disorders, including agoraphobia with or without panic disorder, social phobia, and the specific isolated phobias (for example, to spiders or snakes), as well as other anxiety disorders, including panic disorder, generalised anxiety disorder, and mixed anxiety and depression. Separation anxiety disorder and selective mutism have also more recently been added to the classification of anxiety disorders.”

She continued: “Looking at some of the symptoms of these in more detail:

- Generalised anxiety disorder produces fear, worry, and a constant feeling of being overwhelmed. It is characterised by persistent, excessive, and unrealistic worry about everyday things. This worry could be multifocal, such as finance, family, health, and the future and can be difficult to control. It is often accompanied by other psychological and physical symptoms, such as restlessness, feeling keyed up or on edge, being easily fatigued, difficulty in concentrating or mind going blank, irritability, muscle tension, sleep disturbance and irritability. The anxiety results in significant distress or impairment in social and occupational areas.¹¹

- Social anxiety/phobia is characterised by excessive fear of embarrassment, humiliation, or rejection when exposed to possible negative evaluation by others when engaged in a public performance or social interactions.¹²

“Those suffering with anxiety disorders may sometimes experience panic attacks. Panic attacks are defined by the Diagnostic and Statistical Manual of Mental Health Disorders (DSM) as ‘an abrupt surge of intense fear or discomfort’, reaching a peak within minutes.¹³ Four or more of a specific set of physical symptoms accompany a panic attack, including palpitations, pounding heart, or accelerated heart rate, sweating, trembling or shaking, sensations of shortness of breath or smothering, feelings of choking, chest pain or discomfort, nausea or abdominal distress, feeling dizzy, unsteady, light-headedness, or faint, chills or heat sensations, paresthesias (numbness or tingling sensations), derealization (feelings of unreality) or depersonalization (being detached from oneself), fear of losing control or “going crazy”, and fear of dying¹³.”

THE HEALTH EFFECT

There are different facets to anxiety, which includes the immediate feelings of anxiety but also the knock-on effects it can have to other areas of health.

"Individuals with elevated anxiety are more likely than those without anxiety to have a wide array of medical conditions, including cardiovascular, autoimmune, and neurodegenerative diseases, and are at greater risk for early mortality.¹⁴⁻¹⁷ In particular, people diagnosed with anxiety disorders appear more likely to suffer with obesity, diabetes, asthma, hypertension, arthritis, ulcer, back/neck problems, heart disease, headache, and multiple pains¹⁸," Braye pointed out.

"The bidirectional relationship between anxiety and disease may be explained by underlying biological processes such as allostatic load, inflammation, hypothalamic-pituitary-adrenal (HPA) reactivity, and other neuroendocrine responses.¹⁹ Conversely, having a medical condition may lead to increased anxiety.

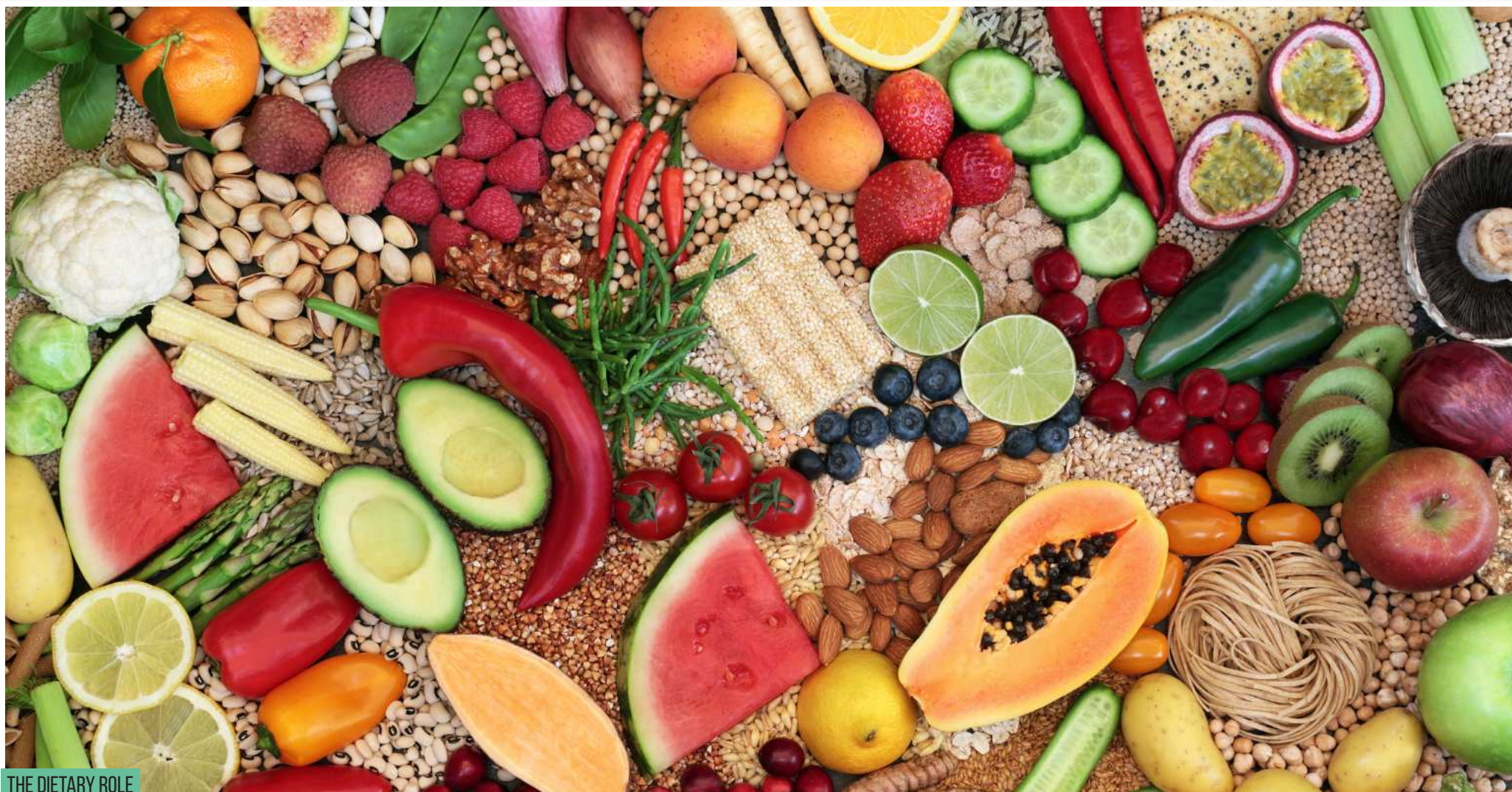
"Comorbidity between IBS and anxiety disorders is also high (approximately half of IBS sufferers report anxiety and/or depression²⁰) and many people report a worsening of digestive symptoms with increased anxiety/stress. This is perhaps unsurprising, given the negative impact anxiety/stress has been shown to have on the gut, decreasing beneficial species of bacteria, increasing gut-permeability (leaky gut), inhibiting digestive function and increasing inflammation^{20,21}."

Dr Glenville continued: "The knock-on effects of continually feeling anxious are enormous, physically and mentally. Feeling anxious can cause mood swings, irritability, nervousness, aggressive outbursts, palpitations, forgetfulness, confusion, inability to concentrate, crying spells, insomnia, headaches, muscle cramps, digestive problems and food cravings. But the most important knock-on effect of anxiety is how it can weaken immune function. This can leave people more vulnerable to getting an infection and their body's ability to recover quickly may be compromised."

Gorman also pointed out: "Long-term overexposure to stress hormones will divert energy and nutrients away from other body systems, which can lead to hormone imbalances, digestive disorders, high blood pressure and poor immunity. In particular, this can weaken the immune system, making people more vulnerable to viral infections and frequent illnesses.

"Anxiety can also have a massive impact on excretory and digestive systems, leading to stomach aches, nausea, diarrhoea, and other digestive issues, even a loss of appetite. Research shows a potential connection between anxiety disorders and the development of irritable bowel syndrome after a bowel infection. It is estimated half of adults suffering with anxiety have poor sleep. People can end up in a vicious cycle because inadequate sleep may increase anxiety. During sleep, the body carries out vital repairs, replenishes energy stores, and processes memories. The knock-on effect of not getting enough is low energy, irritability, mood swings and an inability to think clearly. These can negative affect our day to day life and relationships."





THE DIETARY ROLE

We know diets have shifted during the pandemic for a variety of reasons, and this undoubtedly has had an impact on the health of the mind, including anxiety.

“Certain nutritional deficiencies can make anxiety worse, and these include the B vitamins as they play a vital role in producing neurotransmitters like serotonin. A deficiency in vitamin D is thought to be connected to anxiety and also depression,” Dr Glenville commented.

“Magnesium is important for mood regulation and prolonged anxiety will deplete magnesium. Magnesium is known as the calming mineral,

often referred to as nature’s tranquilliser. It helps to relieve anxiety and relax muscles. Magnesium deficiency is often reflected by waking up in the early hours of the morning and not being able to get back to sleep again. Other nutrient deficiencies to consider are iron, iodine and omega 3 fatty acids.”

Gorman pointed out: “The brain needs a constant supply of nutrients to operate optimally. If the diet lacks nourishing food, it can affect the structure and function of the brain, and ultimately mood. Studies show a correlation between diets high in refined, processed carbohydrates

and worsening symptoms of mood disorders, such as anxiety. Starchy, sugary foods impair the body’s regulation of insulin, disrupting blood sugar balance, which can lead to sugar cravings, irritability, poor sleep and anxiety. Often, when people are tired or stressed, they reach for stimulants like caffeine, or alcohol, but these can also make anxiety worse, by raising stress hormones and disrupting blood sugar balance even further.”

And Braye added: “In times of stress, many people turn to food and alcohol as an emotional crutch, making poorer choices, which can have knock-on effects for mental health. Studies indicate that diet quality

(assessed against the Mediterranean Diet Score) is poorer in persons with depressive and anxiety disorders.⁶ In general, the poorer the diet quality, the more severe and chronic the symptoms. In particular, there appears to be a correlation between mood disorders and diets that are low in fruits and vegetables but high in fat and sugar, processed meats or salty foods^{7,8} (often included in high amounts in processed/convenience foods)."

So, when it comes to an effective dietary programme to address anxiety, generally speaking, there are some key themes

recommended by the experts.

"Ensure the brain is getting all the nourishing nutrients it needs by eating a diet rich in vegetables, low sugar fruit, such as apples and berries, and healthy fats, including olive oil, coconut oil, avocados, nuts, seeds, fish and seafood," Gorman suggested. "It may be beneficial to advise people to include plenty of sources of tryptophan, such as eggs, tofu, legumes, salmon, nuts, seeds. At least three portions of oily fish a week will help to meet the recommended daily intake of omega 3 fatty acid, so vital for brain health."

Braye went on: "Those who struggle with anxiety are best advised to avoid foods and drinks that disrupt blood glucose balance. High glycaemic index (GI) foods (such as cakes, sweets, fizzy drinks, and white bread and pasta etc.) result in an increase in blood glucose levels, however, a large compensatory insulin release may result in reactive hypoglycaemia (blood sugar crash). Hypoglycemia is associated with an acute increase in the stress hormone, adrenaline²², which contributes to neuropsychiatric symptoms including anxiety²³ and symptoms associated with anxiety, such as shakiness, sweating, and heart palpitations.²⁴

Therefore, avoiding sugary foods, refined carbs and high GI foods is advisable. People should also avoid skipping meals to avoid hypoglycaemic attacks.

"Although caffeine is thought to be relatively safe, epidemiological studies suggest that caffeine consumption is linked to anxiety disorders, and often precipitates panic attacks.²⁵ It is hypothesised that many people with anxiety disorders may have a heightened sensitivity to caffeine,²⁶ potentially linked to genetic polymorphisms affecting the adenosine A2A receptor, a primary target

antagonised by caffeine.²⁷ Acute caffeine administration has also been shown to increase HPA axis activity, which regulates the stress response²⁸ and abstinence has been shown to be of benefit to some anxiety sufferers.²⁹ Those with anxiety are therefore recommended to gradually cut down on caffeinated foods and drinks such as coffee, tea, energy drinks and dark chocolate."

She continued: "Those who suffer with mental health disorders such as anxiety and depression are also advised to avoid excessive alcohol and recreational drug use. Human and animal studies have shown that acute exposure to low to moderate doses of ethanol (in alcohol) are anxiolytic,³⁰ however, repeated exposure and withdrawal and excessive consumption are associated with neuroadaptive changes that may lead to persistent increases in anxiety.³¹ Alcohol and recreational drugs interfere with neurotransmitter balance in the brain³², can disrupt blood glucose balance and deplete the body of important nutrients important for a healthy stress response."

Dr Glenville went on: "Eating regularly and cutting down or eliminating sugary foods and refined carbohydrates are important to keep blood sugar in balance. Every time blood sugar drops (low blood sugar or hypoglycaemia), the stress hormones, adrenal and cortisol, will be released and this can make a person feel more anxious than they should be."

There is much research around the power of the Med diet for a host of health areas, and this includes mental health.

Braye explained: "A growing body of evidence suggests an inverse association between adherence to a Mediterranean dietary pattern and odds of psychological disorders, including depression, anxiety and psychological distress.^{33,34} A traditional Mediterranean diet focuses on high consumption of vegetables, fruits, olive oil, legumes, fish, whole grain cereals, nuts and seeds, moderate consumption of dairy and poultry and low consumption of processed foods, sugary foods, red meat and vegetable oils.

"It's likely the beneficial effect seen from a Mediterranean diet are multi-factorial, relating to nutritional and social factors. The diet is high in anti-inflammatory compounds, polyphenols from olive oil, fruit and veg and omega 3 from oily fish. It is also high in fibre (helping to feed beneficial species of bacteria in the gut) and low in sugar, helping to regulate blood glucose levels. There is also a strong focus on eating as a social event."

Gorman added: "Research shows the risk of depression was up to 35 per cent lower in people eating the Mediterranean diet compared to the traditional 'Western' diet."





A SUPPLEMENT PROGRAMME

Clearly, there are a variety of factors that are involved in an effective protocol, with lifestyle and dietary changes being paramount as the foundation. But we know that certain nutrient deficiencies can be indicated in the area of the brain, and so there may be beneficial recommendations you can make in terms of supplementation.

Dr Glenville advised: "Certain nutrients can be extremely helpful in helping to reduce anxiety and its impact on health and immune function. When anxious, a person uses up a lot of the B vitamins, especially vitamin B2 and B5, as well as vitamin C. These are all water-soluble vitamins, so they need to be included in the diet on a day-to-day basis (or obtained from food supplements) because they are not stored in the body.

"Chromium is helpful for blood sugar balance and L-theanine for reducing stress and anxiety and helping the mind to 'switch off' at night so a person can get to sleep. The herb, Siberian ginseng, is also beneficial as it acts like a tonic to the adrenal glands. Practitioners need to bear in mind if a person is already taking prescribed medication and whether any of the supplements that they would recommend might be contraindicated."

Gorman also advised: "Nutritional deficiencies can certainly make conditions like anxiety worse. Low levels of B vitamins are correlated with depression, anxiety, fatigue, and irritability. They play a vital role in producing brain chemicals, like the feel-good neurotransmitter, serotonin.

"Antioxidants such as vitamins C and E are important too, they play a vital role in maintaining balance in the central nervous system. Iodine is needed for the production of thyroid hormones. These hormones regulate so many things in the body, including mood, energy, metabolism, growth, immune function, and brain performance. A deficiency can lead

to anxiety, depression, weight gain and sluggishness. Iron is crucial for haemoglobin production, the protein which transports oxygen around the body. The health of the brain and nervous system depend on healthy iron levels. Low levels can result in a range of symptoms including depression, anxiety, fatigue, low energy, weakness and irritability."

Braye turned her attention to magnesium, explaining: "The anxiolytic potential of magnesium and a relationship between magnesium status and anxiety is evident in both animal and human studies. For example, anxiety related to stressful exam conditions has been shown to increase urinary magnesium excretion, resulting in a reduction of magnesium levels⁴¹ and dietary levels of magnesium intake have been inversely associated with subjective anxiety.⁴² Magnesium supplementation has been shown to attenuate the activity of the HPA axis,⁴¹ reducing cortisol levels.⁴³

"Many naturally grown foods contain magnesium, but its consumption has significantly decreased in the last few decades because of changes in dietary habits, increased food processing, and depletion of minerals in the soil.⁴⁴ Therefore, many people may benefit from magnesium supplementation to assist with anxiety symptoms."

We also know that fuelling the brain with good fats is imperative.

"Omega 3 fatty acids, EPA and DHA, help regulate the neurotransmitters dopamine and serotonin, which have a calming and relaxing effect on the body. They also help reduce inflammation, preventing brain cell dysfunction which can lead to the development of mental disorders like anxiety," Gorman commented.

Braye went on: "Essential fatty acids (EFAs), vitamin B6 and vitamin C may be of benefit. A 2017 systematic review⁴⁵ of 14 studies was

conducted to identify the impact of EFAs, B vitamins, vitamin C, magnesium and zinc, consumed as dietary supplements to the daily diet, on female stress and anxiety levels. It found that:

- EFAs may be effective in reducing prenatal stress and salivary cortisol levels, and premenstrual or menopausal anxiety (in the absence of depression).
- Combining magnesium and vitamin B6 may reduce premenstrual anxiety.
- Vitamin B6 alone may reduce anxiety in older women.
- High-dose sustained-release vitamin C may reduce anxiety and mitigate increased blood pressure in response to stress.

She added: "Botanicals such as passion flower, valerian, lemon balm, chamomile, mint, lime-flower, lemon verbena, lavender, poppy, and hops also have potential anxiolytic effects.¹

"*Withania somnifera* (WS), widely known as ashwagandha, is an Ayurvedic herb classified as an adaptogen, which indicates its ability to regulate physiologic processes and thereby stabilise the body's response to stress.⁴⁶ WS has been shown to exert an anxiolytic effect in animals and humans.^{47,48} Rhodiola is another adaptogen. It has been shown to influence the release of stress hormones while boosting energy metabolism.⁴⁹ A recent review found that rhodiola offers comprehensive treatment of stress symptoms and can prevent chronic stress and stress-related conditions⁴⁹."

Dr Glenville continued: "There are some very good traditional herbs that have been used for centuries to help with sleep problems. These include valerian, chamomile, hops, lemon balm and passionflower. Valerian has been shown to reduce the time it takes to fall asleep by 15-20 minutes

and can improve sleep quality too. Chamomile has calming effects, which decrease anxiety and help to initiate sleep.

"Lemon balm has been used with volunteers with stress and anxiety disorders and sleep disturbances. It not only helped them sleep better but also reduced anxiety. Passionflower is helpful for sleep problems and, when combined with valerian and hops, was as effective as a medication for insomnia at improving sleep quality. The amino acid, L-theanine, is really helpful for those who are 'tired but wired', where they are exhausted but as soon as their head hits the pillow their brain is very active and doesn't allow them to fall asleep. There has also been good research on tart cherries, which has shown that these have helped people with insomnia increase sleep time by up to 84 minutes."

Gorman also suggested: "Curcumin, a compound extracted from turmeric, is a powerful antioxidant and anti-inflammatory, it may also help prevent anxiety disorders by helping the body synthesise omega 3 fatty acids more efficiently. L-theanine, from green tea, is a calming amino acid, which can help reduce the mental and physical symptoms of stress. L-tryptophan, an amino acid, is a precursor to the feel good neurotransmitter, serotonin, it can help calm the mind, improve mood and sleep.

But she added: "It is crucial to consider any medication which may have been prescribed. Many of the supplements which are recommended for supporting mood and resilience to stress such as St John's wort or L-tryptophan have contraindications with medications. It is important to look at the individual as a whole and assess all the bodily systems to explore what could be contributing to anxiety, such as adrenal insufficiency, poor gut or liver health, or nutrient deficiencies."

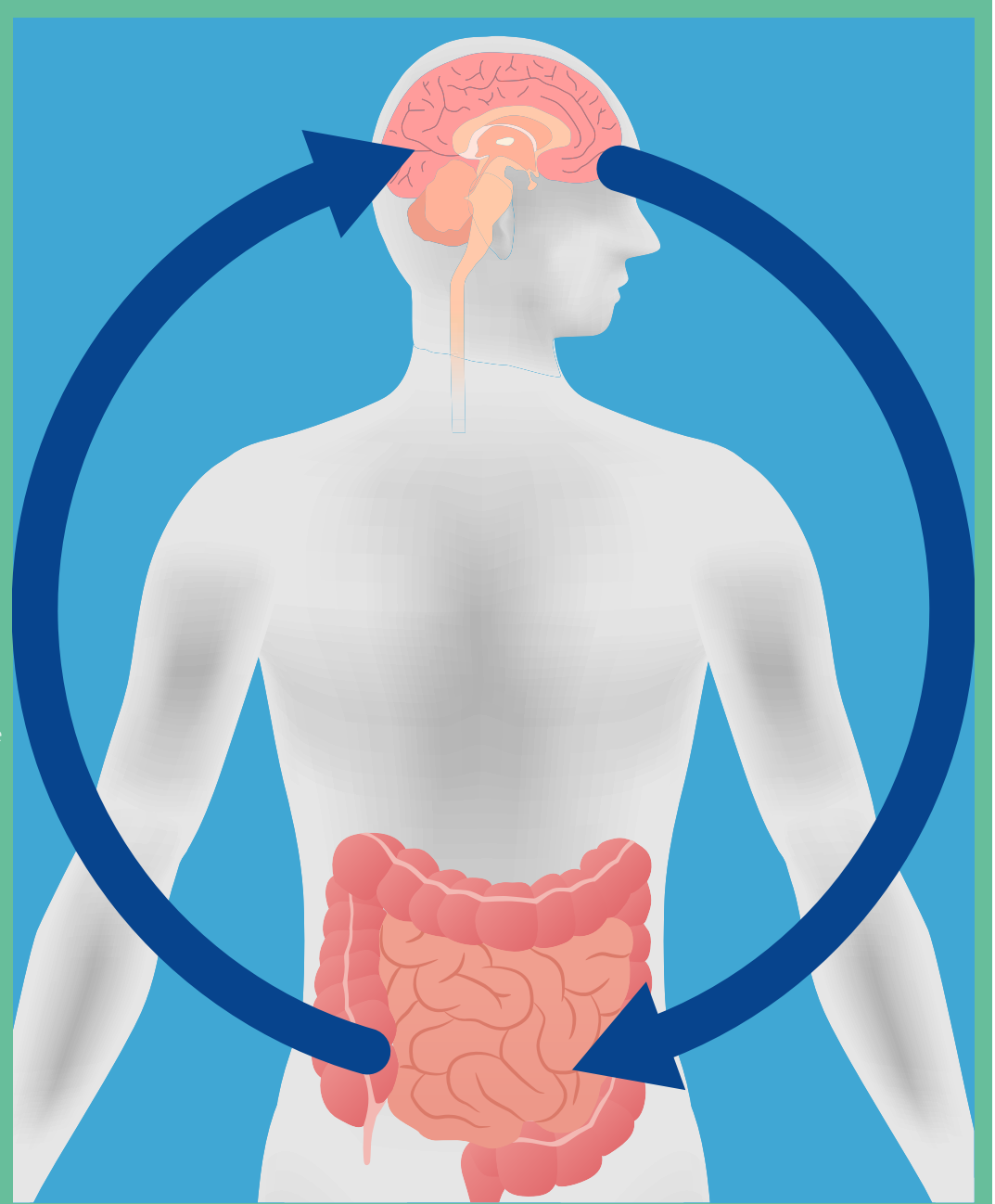
THE GUT-BRAIN AXIS

There's much discussion around the power of the gut in relation to a host of health areas and body systems – and the gut-brain axis is emerging as one of the most important factors to consider when it comes to the mind.

Looking at this in detail, Braye advised: "Live bacteria supplements have become a particular area of focus for researchers as evidence increasingly suggests the microbial balance in the gut may have a significant impact on mental health. For example, the importance of the microbiota-gut-brain axis in regulating stress-related responses is becoming increasingly apparent. The routes of communication between the gut-microbiota and brain are slowly being unraveled, and include the vagus nerve, gut hormone signaling, the immune system, tryptophan metabolism, and microbial metabolites, such as short chain fatty acids³⁵

"Our gut bacteria can become easily unbalanced from factors such as poor diet and lifestyle choices and antibiotic use.³⁶ Such changes to the gut microbiota have been implicated in a variety of stress-related conditions, including anxiety, depression and irritable bowel syndrome (IBS).³⁵ Stress and anxiety itself can also negatively impact our gut bacteria by triggering the release of inflammatory cytokines, shown to reduce the abundance of a number of bacterial species in the gut.³⁷ This has led to increasing research into 'psychobiotics', the name given to supplemental probiotic bacteria thought to have a positive effect on brain function, mood, anxiety and stress response."

And Gorman also suggested: "More and more studies are highlighting the importance of digestive health for emotional wellness. Poor gut health can affect our resilience to stress. Keep the microbiome happy with fermented foods such as kefir, sauerkraut, or kimchi, fibre, and prebiotic vegetables including artichoke, leek, apple, garlic, and onion. Antioxidants are also vital, as the brain's high metabolic rate makes it particularly susceptible to oxidative stress."



SHIFTING LIFESTYLE CHOICES

So, looking in greater detail, what lifestyle factors are important when it comes to easing anxiety?

"Many anxiety sufferers find meditation techniques (which incorporate practices to regulate attention, construct individual values, or deconstruct self-related assumptions) useful in helping to reduce symptoms," Braye advised. "A recent systemic review and meta-analysis found that utilising meditation techniques rather than just using relaxation techniques was significantly more effective in anxiety management."⁵⁰ However, some people report that mindfulness practice can actually worsen feelings of fear, anxiety, panic, and paranoia,⁵¹ so it's important to figure out what works best on a personal level.

"Research also suggests that exercise may be a viable option for the management of anxiety. In a recent systematic review and meta-analysis,⁵² aerobic exercise was effective in the treatment of raised anxiety compared to control groups. High intensity exercise programmes showed greater effects than low intensity programmes. However, if exercising intensely, it's important to ensure you are well-rested and adequately fuelled and hydrated, as otherwise intense exercise can be another stress on the body."

Dr Glenville highlighted the critical importance of rest.

"As a society, we are sleeping less; the time we sleep each night has reduced from nine hours to 7.5 hours since the 1900s. One in three people are affected by insomnia, which can be difficulty in getting to sleep and/or waking during the night and not being able to get back to sleep," she explained. "Sleep is important

for our health because it gives our bodies body time to recharge its batteries and repair cells and tissue. When we don't get enough or good quality sleep, we can feel anxious and irritable and, of course, feel tired.

"Sleep nowadays is almost seen as a luxury because it means we can pack more into the day if we sleep less. This might seem logical because we will have more hours awake but by depriving ourselves of sleep, we may find that we are not as productive the next day and that lack of sleep will have long-term consequences on our health. We now know that not getting enough sleep increases our risk of type 2 diabetes, cancer, being overweight and Alzheimer's."

She went on: "Taking deep breaths when someone is anxious can help them to feel calmer and more relaxed. When a person shallow breathes, they are hyperventilating and that can make them feel more anxious. Deep breathing helps to switch off the stress response.

Factoring in time for gentle exercise to walk outside in the fresh air is important to help reduce anxiety and people can even use walking as a form of mindfulness just to be in the moment and quietening the mind."

Gorman also suggested: "Training the body to relax is crucial. There are so many different things to try, such as mindfulness, meditation, yoga, tai chi or Pilates. These activities can help promote calmness, ease anxiety and negative emotions.

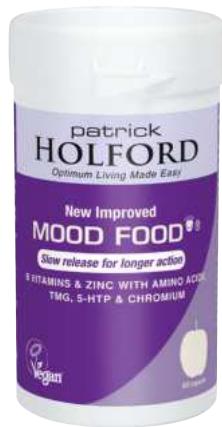
"Deep mindful breathing can also be helpful. Oxygen is one of the foundation blocks for good health, improving breathing can be critical. There are two types of breathing: anxious shallow breathing in the chest, and relaxed breathing from the diaphragm. Chest breathing should only be temporary, it is related to a fight-or-flight response. If stressful breathing becomes chronic, the body will retain carbon dioxide and cortisol and may start affecting general health

and immunity. Retraining the body to breathe in a relaxed, healthy manner will help clear out carbon dioxide and cortisol."

And certain therapies can also sit alongside a nutritional protocol.

Braye suggested: "A large amount of research has accumulated on the effectiveness of cognitive behavioural therapy (CBT) for anxiety disorders. CBT is typically a short-term, skills-focused treatment aimed at altering maladaptive emotional responses by changing the patient's thoughts, behaviours, or both⁵³ and has been associated with improvements in quality of life in anxiety patients.¹ Seeking out a CBT practitioner who specialises in supporting those with anxiety is therefore recommended. The Mind mental health charity also has a number of anxiety self-care suggestions on its website, including peer support, keeping a diary, breathing exercises, worry management techniques and talking to someone you trust⁵⁴."





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DIGESTIVE DIET

There is so much to take into account when it comes to advising clients on how to nourish their gut, in part, because everyone is so individual in this regard and there is a spectrum of conditions that relate to digestive health.

"It is very difficult to say what is the best gut healing diet as each condition and each individual will be different. But there are some nutrition staples that may be helpful in a gut healing protocol," Burton commented. "As a starting point, moving away from processed foods and incorporating home-cooked whole foods may be a simple but effective change, with many people noticing a rapid improvement in their digestion.

"Some people may find benefit in following a diet protocol similar to that of the 5R gut healing approach, which involves the removal of potential triggering foods and utilising a range of supplements and/or dietary modifications. This may include following a low FODMAP diet, which has been observed in studies to be beneficial for a number of digestive symptoms. Meta-analysis found improvement in symptoms, as well as 70 per cent improvement in quality of life in patients with functional GI disorders.²¹ This provides the opportunity to heal the gut, before reintroducing foods in a methodical way."

She continued "Digestive enzymes, stomach acidity and bile may be low in those with poor gut health; these aid in food breakdown and absorption of nutrients, so symptoms of gas and bloating may result from insufficient levels. Clients may be able to naturally increase stomach acidity by drinking hot water with lemon, apple cider vinegar or Swedish bitters^{22,23} or taking a betaine hydrochloride supplement. The addition of traditionally fermented food such as kefir, sauerkraut, kimchi and live yoghurt may help to support beneficial bacteria as these foods will often contain different bacteria to those found in supplemental form.

"Those who eat over 30 different types of plant foods a week have been shown to have significantly more diverse gut microbiomes than those who eat less,²⁵ which is generally associated with positive health outcomes. Herbs and spices such as sage, oregano, basil, celery seeds, rosemary, berries such as blueberry, blackcurrant, strawberry, raspberry; vegetables and legumes such as red onion, spinach, broccoli and black beans all contain polyphenols which can promote the growth of beneficial bacteria and prevent that of opportunistic bacteria²⁶."

Focusing on removing common components of the modern diet is an important starting place.

Burton explained: "The Western diet is typically high in sugars and refined carbohydrates and low in fibre. Studies have shown that this

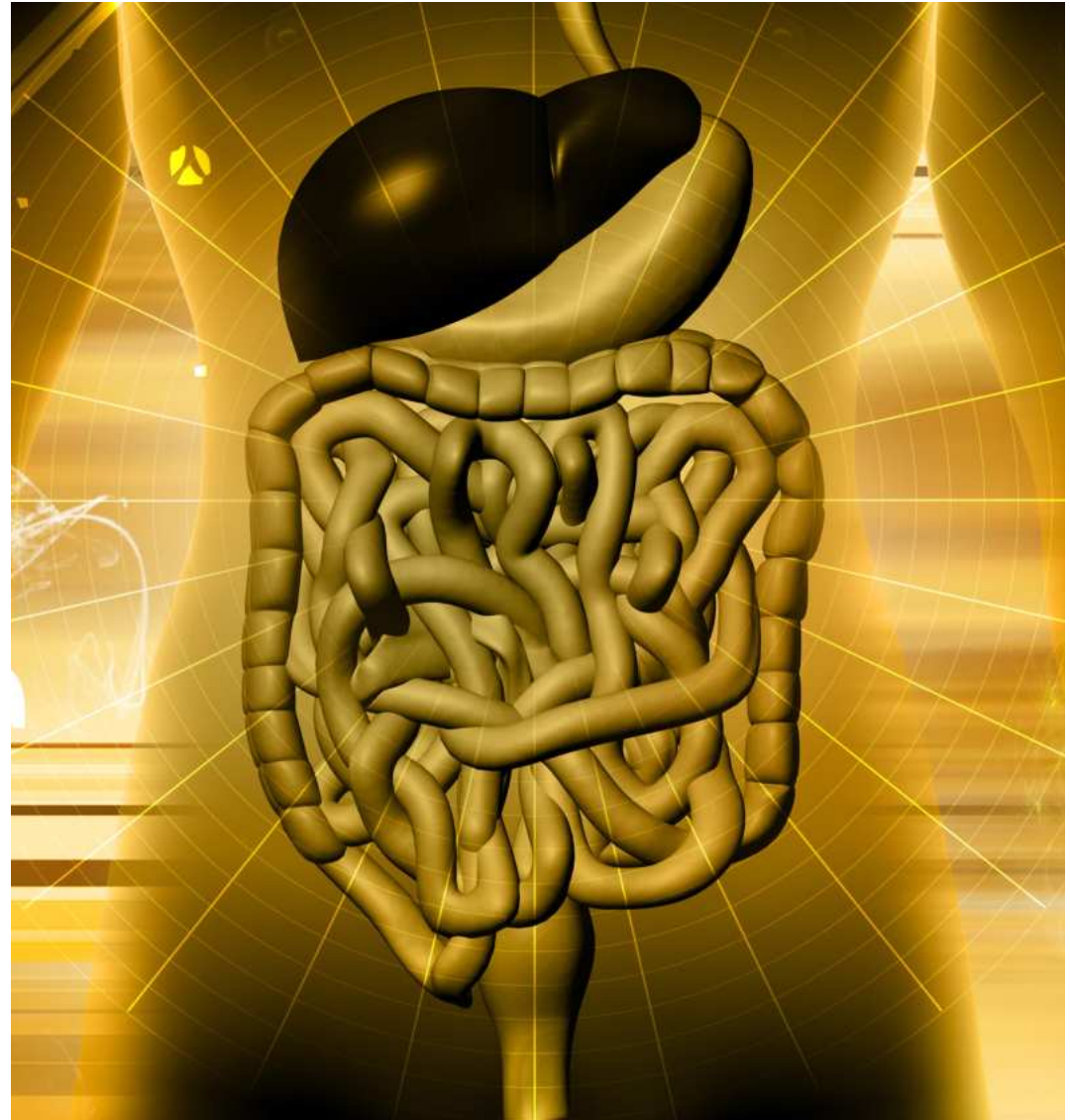
combination can significantly deplete the diversity of bacteria within the gut and increase levels of undesirable microorganisms such as yeasts (which feed on sugar).¹³ Processed foods contain many hidden sugars, additives and emulsifiers, which are thought to have a negative impact on the balance of bacteria in our gut, and a pro-inflammatory effect.¹⁴

"Low fibre diets are particularly detrimental, as prebiotic fibres from fruits, vegetables and wholegrains are needed to act as a fuel source for beneficial bacteria in the gut to keep levels healthy.¹⁵ Cutting down on sugary and refined foods and boosting fruit and veg intake is, therefore, recommended.

"Removing any pathogenic overgrowth from the gut could also be useful. This may be done by supporting the immune system and using suitable antimicrobial foods such as garlic (which has been shown to have potent anti-microbial and anti-fungal effects).¹⁶ Foods containing L-glutamine,¹⁷ collagen,¹⁸ and polyphenols¹⁹ are also often used in response to gut inflammation, due to their role in supporting the epithelial barrier."

Dr Glenville went on: "The key culprits for digestive problems can include refined foods,

where there is a lack of natural fibre which should be contained within the foods. This can cause problems with constipation and affect the gut microbiome. Other culprits can include fizzy drinks, too much alcohol, too much coffee or tea, spicy and spicy and high fat foods, like chocolate and drinking lots of liquids with meals, which dilutes the digestive fluids and



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Nutrition

in the young

Ahead of the start of the back-to-school season, *Nutrition I-Mag* turns the focus on children's health and the potential for lacking nutrition.





It's been an unprecedented year for children, with changing routines, restrictions on movement and shifting diets, and that's before you factor in the issues of concern around young people's health that existed prior to the pandemic – with high obesity levels being just one.

In fact, most recently, researchers at Imperial College London have warned of the need for action over the potential harm to children from ultra-processed foods (UPFs). Researchers found that not only do UPFs make up a considerably high proportion of children's diets (more than 40 per cent of intake in grams and more than 60 per cent of calories on average), but that the higher the proportion of UPFs they consume, the greater the risk of becoming overweight or obese.

The researchers also highlighted that eating patterns established in childhood extend into adulthood and that action is needed urgently to reduce UPF consumption among children. The authors explain that the research, published in the journal, *JAMA Pediatrics*, provides important evidence of the potential damage of consuming highly processed foods which are often cheap, widely available and highly marketed.

And there is concern that the Covid-19 pandemic is only going to have exacerbated these issues.

Keeley Berry, Nutritional Expert and Product Development Technologist at BetterYou, commented: "It's safe to say that for many, the priority over the past 18 months has been to improve immune health amongst children, to protect against the threat of the virus. As with all unforeseen changes that drastically effect a child's day-to-day routine, the pandemic has without a doubt played a role in both improving certain aspects of children's wellbeing, whilst hindering other areas.

"For example, whilst no-school periods during

warm weather will have seen an increase in outdoor play and exercise, lockdown during the winter months no doubt led to an increasingly indoor and sedentary lifestyle for many youngsters, resulting in a lack of vital vitamin D. In 2020, Public Health England actually updated its advice, urging the nation to continue to supplement the

sunshine vitamin during the warmer, lighter months, rather than only between October and April. This was due to the Government's stay home advice as the cases of Covid-19 surged.

"What's more, whilst children are often hailed as being incredibly adaptable, the pandemic will no doubt have impacted young people's mental health. One study, conducted by the Institute of Psychiatry, Psychology and Neuroscience (IoPPN) at King's College London, found an association with the Covid-19 pandemic and a 'sharp increase in mental health issues for children aged 11- 12-years-old.'

Dr Hogne Vik, Chief Medical Officer at NattoPharma, which is the international supplier of the only clinically validated vitamin K2 as MK-7, MenaQ7, added: "Covid-19 seemed to put all other health issues on the backburner while most parents turned their attention to shoring up immune function. That did not mean that bone health was no longer an important issue to address with



children's nutrition. What did result from Covid-19 was an increased interest in vitamin D3 because of its proven benefits for immune support. What needs to be considered is that vitamins D3 and K2 are important synergistic nutrients."

And let's also keep in mind the very real and potential long-term impact on the collective mental health of children.

Birgitta Pain, Nutritionist and In-house Nutrition Advisor at Natural Health Practice, advised: "The impact of social isolation on emotional wellbeing and mental health is an overarching area of concern for all age groups but particularly for children. Many impacts will be long-term and take time to emerge, for example, life-course effects on obesity and mental health stemming from increased early years adversity.

"The pandemic has reduced the amount of children's sporting activities as many sporting pursuits were cancelled (especially indoor sports)

which will affect children's weight as they are less active, and without the structure of school, poor eating habits can happen."

Kirsty Gillmore, Registered Nutritional Therapist and New Business & Sustainability Representative at G&G Vitamins, turned the focus on immune health, commenting: "For those children who have stayed indoors throughout most of the pandemic, it is unlikely that they would have been affected by these illnesses due to low exposure to other children.

"However, the immune systems of these children may be significantly reduced, as there would have been fewer pathogens to deal with during their time indoors, and their exposure to vitamin D from the sunshine would also play a big factor in immune regulation. This means that when these children start being exposed to more people, they may be at greater risk of infection than they were before the pandemic."



CHILDREN SPECIFIC CONCERNS

There are some specific health issues it's important to be aware of when it comes to the younger population.

Pain discussed the impact of expanding waistlines in the young. "Today, many kids are overweight or obese. Childhood obesity and excess weight are significant health issues for children and their families. There can be serious implications for a child's physical and mental health, which can continue into adulthood," she commented. "According to Public Health England, the number of children with an unhealthy and potentially dangerous weight is a national public health concern. Excess weight can lead to health issues such as diabetes, heart disease, asthma, and high blood pressure."

Berry added: "Sadly, according to the *State of Child Health* report 2020, many measures of children's health and wellbeing in the UK appears to have 'stalled' or were even considered in reverse – something which is incredibly rare in countries classed as 'high income'.

"Common health issues for children today include weight problems such as obesity (around 25 per cent of four- five-year-olds in the UK are considered overweight), chronic conditions including asthma and eczema, and mental health issues, such as anxiety –

which can lead to poor sleep, amongst other physical problems."

And Dr Vik highlighted how crucial it is that steps are taken to protect developing bones in the young.

"Bone health is an important issue facing children's health and wellbeing today. This is the foundation that will carry them (literally) into adulthood. Yet children are actually the group most impacted by vitamin K2 deficiency (K2 is an essential bone-support nutrient), and this deficiency is resulting in increased fracture rates in kids. We can take huge strides at avoiding these incidences by addressing vitamin K2 deficiency," he commented.

Referring back to the importance of immunity, Gillmore added: "Colds and coughs are very common in childhood years, especially for those who regularly attend play groups and parties, where they are in contact with lots of children. Chickenpox will also infect most children at some stage in their childhood years, caused by the varicella-zoster virus. Other common bacterial and viral infections include gastroenteritis, conjunctivitis, and acute otitis media (ear infection). Asthma often shows up in childhood years, particularly if the parent has asthma due to its genetic link. It can also be triggered by chemical irritants such as cleaning products, as well as toxic mould in the home."



DECLINING DIETS

There is real concern not just at the level of junk food being consumed by children, but their expanding waistlines – and there are some important factors to consider around this.

Jo Sharp, Nutritional Specialist Trainer at Minami, advised: "A poor diet can not only increase the risk of childhood obesity, diabetes and other lifestyle diseases, but it can also affect their behaviour, ability to learn and IQ. The main dietary concerns are high amounts of sugar, low fibre, low diversity and not enough fruit or vegetables."

Pain went on: "Poor diet and low levels of physical activity are the primary causal factors to excess weight. Children are currently consuming more than the recommended daily limit of sugar and this is a contributing factor to excess weight gain. The National Diet and Nutrition Survey found that sugary drinks account for 30 per cent of four- to 10-year-olds' daily sugar intake.

"Most of us eat too much sugar, and the World Health Organization recommends that we should reduce the amount of 'free sugars' we eat. Free sugars are any sugars that are added to food or drinks, or present naturally in unsweetened fruit juices, fruit purées and pastes, as well as honey or syrups. This does not include natural sugars found in fruits, vegetables and milk. Although progress has been made in reducing our intake, the most recent UK survey showed that our children continue to consume over twice the recommended amount of their daily calories from free sugar."

She continued: "Maximum recommended sugar intake per day by age group:

- **Four- to six-years-old** – 19g (five teaspoons).
- **Seven-10** – 24g (six teaspoons).
- **From 11 years** – 30g (seven teaspoons).

"It is important to check the labels on children's food items as, for example, some fruit yoghurts are marketed as

healthy with added nutrients, but the sugar content can be as high as 17g of sugar, which is nearly the recommended daily amount for four- to six-year-olds.

"A recent BBC Programme, *What are we feeding our kids?*, also highlighted the amount of processed foods children are eating which are devoid of nutrients and full of industrialised substances that are not beneficial to their health. It showed that one in five of us are eating a diet that is 80 per cent processed food, which is a telling sign of the busy lives so many of us live but could have a detrimental effect on our health due to lack of nutrients needed for growth and development."

Berry went on: "It is widely reported that socioeconomic factors can impact a child's health and wellbeing profoundly, and average diet is no exception. Sadly, for many families that have struggled financially since March 2020, the focus will have been on affordable mealtimes, not necessarily the most nutritionally robust recipes.

"I do feel that, amongst the majority, parents and those taking care of children and young people are more aware than ever before of the need for a balanced, healthy diet. The age of 'child-friendly' foods (overly processed frozen products such as turkey dinosaurs, etc.) seems to be on the way out, with millennial parents favouring smaller portions of foods they themselves would eat. I think this will benefit



youngsters, ensuring they are introduced to a wider variety of fruits, vegetables, tastes and textures before their teenage years.

"That being said, we know that modern western diets can often lack key nutrients, or the foods we eat day to day may not provide meaningful levels of certain vitamins and minerals."

Dr Vik added: "Nutrient depletion of our soils leaves our food supply simply less nutritious, even the healthiest diets. But it is also a concern that certain vitamins and nutrients are not easily obtained by diet alone. Vitamin K2 is an excellent example: it is produced via bacterial fermentation, so it is only present in small amounts of specific fermented foods. Most popular source in the west is fermented cheeses, but even then, we have to consume extraordinary amounts daily just to receive the minimum recommended daily dose of K2, which is 45mcg."

Educating children and parents around what constitutes a healthy diet must be the starting point for good health in the young and getting them used to being involved in meal planning and prep are all easy ways to engage.

Berry suggested: "From a mealtime perspective, a selection of different coloured vegetables, a source of protein and healthy fats make for a healthy combination. To start the day, oats with milk or wholemeal toast and natural peanut

butter will provide a steady release of energy due to the mixture of protein and carbohydrates – and these are foods that can be naturally sweetened for little ones that need encouragement. Opting for fruits and vegetables as healthy snacks throughout the day will also help to sustain blood sugar levels."

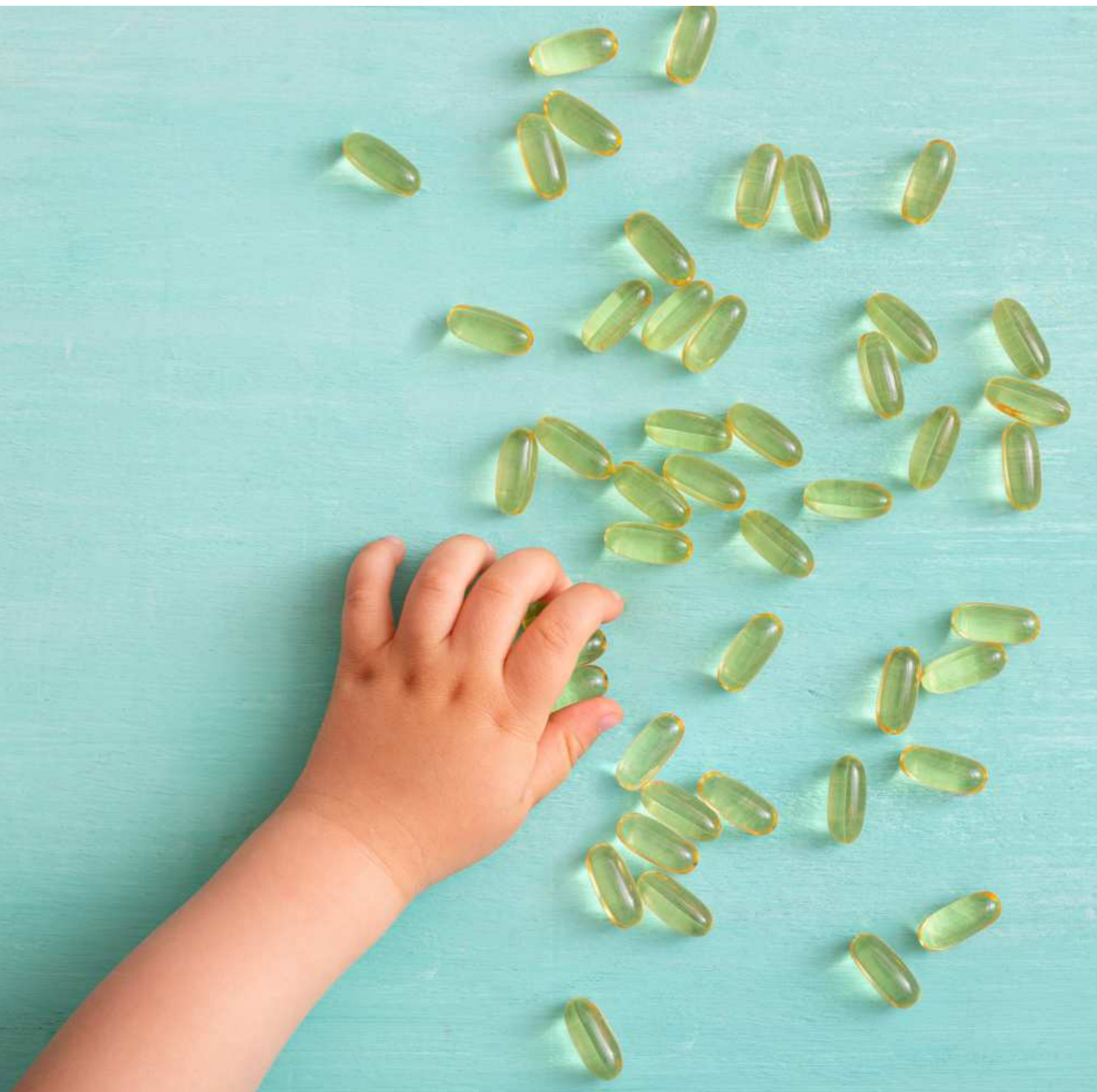
Pain went on: "Your child should eat at least two portions of fish a week, one of which should be oily fish, such as salmon, mackerel, trout or sardines. Oily fish contains long chain omega 3 fatty acids, which are important for

health. Eat at least five fruit and vegetables a day and introduce a variety of tastes, colours and textures and drink plenty of fluids, encourage plain water as much as possible so they do not get used to the sweetness of cordial or fruit juice.

"High-sugar foods tend to contain fewer vitamins, minerals and fibre, and they may start to replace the nutritious foods children need to grow and develop. Let kids help plan and prepare one meal each week so they can see what the ingredients are and you can have fun creating the meals and discuss what each nutrient does in the body."

Gillmore added: "Children need to be eating a balanced diet of carbohydrates, protein and fat. Protein is particularly important to obtain the essential amino acids needed to build new tissue. The rise in plant-based eating mean that children's diets can lack certain amino acids if the parent is not carefully including a broad spectrum of amino acid sources, such as dairy, eggs, legumes and grains.

"Omega 3 is also very important to include in a child's diet, for brain development and quality sleep. Calcium plays a critical role in skeletal growth, and can be obtained from milk, cheese, yoghurt, fish and leafy greens. Other key nutrients include iodine for tissue growth, iron for red blood cell development and vitamins A and D for immune function and healthy bones."



SUPPLEMENTS OF NOTE

Just as adults can be lacking in key nutrients, so too can children – who may already have greater need for certain health areas.

Let's start with vitamin D, a nutrient considered so crucial that Government changed its guidance during the pandemic to advise people to supplement year-round, as opposed to original guidance for just autumn and winter.

Berry agreed, explaining: "One nutrient considered critical for children is vitamin D, due to its role in supporting healthy bones, muscles and teeth. There are also a growing number of studies that demonstrate vitamin D's ability to support immune health, ensuring we're better equipped to fight off infections in the body. As children are often indoors, or have their limbs covered with clothing and sunscreen in the summer months, supplementing vitamin D is the safest way to ensure levels are elevated or maintained appropriately."

Pain added: "Due to Covid-19 restrictions, the Government is recommending vitamin D is taken as children may have been indoors more than usual. Look for a good quality, naturally flavoured vitamin D3 liquid on an organic olive oil base, as administering it this way makes it easier for children to take on a daily basis as it can even be dropped into a yoghurt or smoothie if a child is fussy."

"In light of the current pandemic, a recent study, *Covid-19 and obesity in childhood and adolescence: a clinical review* (nih.gov), has shown the importance of vitamin D in supporting the immune system fight viruses and it is known that a sedentary lifestyle is characteristic of obese children, causing the practice of physical activities outdoors – which would increase exposure to sun and skin formation of vitamin D – to be reduced in this group."

Sharp discussed the critical need for good levels of essential fats in children.

"Omega 3 is essential for the development of the brain, eyes and a healthy heart. Taking into consideration children's dietary habits, omega 3 is commonly found to be low," she explained.

"Both EPA and DHA are omega 3 essential fatty acids that the scientific literature focuses on. They both have slightly different roles in the body and depending on the age, the demand for each one can differ. Overall, EPA tends to be associated with cardiovascular health but it's also a key component of neurotransmitter communication and dopamine regulation."

"DHA, on the other hand, is associated more with the early development of the brain and eyes. DHA is highly concentrated in the grey matter of the brain, while the white matter is EPA dominant. Therefore, the right ratio must be considered when supplementing, to best support brain development. Many children's omega 3 supplements will often have a high DHA ratio, which can fall short when looking at children over six-years-old."

She went on: "The benefits of omega 3 supplementation throughout childhood

are far and wide; evidence shows improved cognition and focused attention, as well as a positive effect on neurotransmitters and mental health. It has also been shown to decrease neurodevelopmental disorders, lower rates of allergies and other atopic conditions and finally improve respiratory health. Some research also suggests it can improve sleep quality and duration."

And Gillmore suggested: "An all-round multivitamin and an omega 3 supplement are ideal for children to fill in the dietary gaps. The multivitamin should ideally contain vitamin A, B vitamins, vitamin C, vitamin D, vitamin E, vitamin K, folate, calcium, iodine, iron and zinc. Other essential minerals include phosphorus, magnesium, copper, manganese and chromium, although these are easy to obtain when consuming a balanced, colourful, whole food diet."

Then we should look to vitamin K, important for a range of reasons.

Dr Vik explained: "Researchers have noted a steady decline in vitamin K consumption in children – intakes were 39mcg/day in the 1950s compared to 24mcg/day in the 1990s.^[1] These reduced intakes are believed to correlate to increased bone-related injuries for children. In fact, recent research has shown when vitamins D and K2 are insufficient in children, they tend to be more at risk for low-energy fracture (such as what occurs when tripping or falling).^[2]

"According to Dr Vladimir Badmaev, author of the paper, *Decreased Levels of Circulating Carboxylated Osteocalcin in Children with Low Energy Fractures: A Pilot Study*, 'The epidemiological evidence indicates a disturbing growth in the number of cases of low-energy fractures in healthy children and adolescents. There are multiple risk factors that may contribute to this growing health concern, and among the leading consideration are deficient or insufficient nutrition and nutrients, including calcium, vitamin D and vitamin K'.

"Further, a trial with 245 healthy girls (aged three-16 years) essentially showed that higher amounts of active osteocalcin (a K-dependent protein activated by vitamin K2) was correlated with higher amounts of K2, resulting in lower rates of bone breakdown^[3]."

He added that combining vitamin K2 with vitamin D is also a worthy consideration.

"Both vitamins D and K are fat-soluble vitamins that play a central role in how the body utilises calcium, working in tandem to strengthen our bones while protecting our hearts. While vitamin D3 is needed in the creation of vitamin K dependent proteins (VKDP) that support calcium



absorption, vitamin K2 is critical in forming a solid bone matrix and a healthy cardiovascular system via the activation of those proteins, namely osteocalcin for bones and matrix Gla protein (MGP), respectively," he explained.

"But taking high doses of vitamin D3 without K2 means there are more VKDPs, but they remain inactive and are not doing their jobs. Namely, osteocalcin is not helping bind calcium to the bone mineral matrix. And there is strong clinical evidence in support of vitamin K2, but also the combination of K2 and D3:

- **2013:** Children and teens given MenaQ7 K2 (50mcg) and vitamin D (5mcg calcitriol) daily showed improvements in bone mineral density.^[4]
- **2012:** Children and adults over the age of 40 express the greatest K deficiency and had the strongest response to K2 supplementation

(45mcg for children; 90mcg from adults; both as MenaQ7).^[5]

■ **2009:** Healthy children aged six to 10 who took 45mcg of K2 (as MenaQ7) a day resulted in more active OC, leading to stronger, denser bones^[6]."

There are other key considerations too, with Berry adding: "I would also recommend increasing magnesium intake amongst children and young people, which can be done transdermally (through the skin), avoiding any digestive discomfort. Magnesium is known to support a whole host of functions within the body, including aiding good quality, restful sleep – something which is vital for children to remain healthy and energised. Magnesium is also a crucial component in establishing strong bones, aiding the conversion of vitamin D into its active form, so it can promote calcium absorption into the bones."

EXPERT ADVICE

Our panel of nutritional experts offer readers advice on dealing with a variety of issues.



What is the best protocol to adopt in clinic when advising a client with elevated levels of bad cholesterol, and what are the long-term consequences of this?

LINDSAY POWERS ADVISED: For decades, we have been taught about the potential risks of raised cholesterol levels and how this can play a role in cardiovascular disease. As natural health practitioners, we have seen a shift in our understanding in more recent years. In practice, I aim to educate patients on the vital role of cholesterol in the body and how to support a healthy cholesterol balance, instead of lowering it.

Cholesterol acts as a critical building block for hormones, helps us produce bile acids, and is essential to vitamin D synthesis. The body requires a continuous supply of cholesterol and explains why we can synthesise cholesterol ourselves.

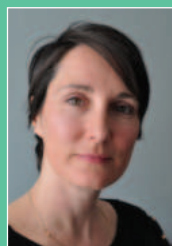
My focus is on nutrients to support the cardiovascular system and a healthy HDL/LDL cholesterol balance in clinic. Healthy fats such as omega 3 fatty acids are beneficial to reduce inflammation, oxidative stress and help with blood flow. Krill oil is a good source of omega 3 fatty acids, with its phospholipid profile helping its uptake into the cells. Krill oil may help reduce LDL ('bad') cholesterol, while increasing HDL ('good') cholesterol and reduce overall triglycerides.^[1]

Native to southern Italy, bergamot (*Citrus bergamia*) has a long history of improving immune response and cardiovascular function. Research shows that bergamot extract supplementation benefits in lowering LDL ('bad') cholesterol while increasing HDL ('good') cholesterol and reducing triglycerides. Bergamot extract also inhibits the oxidation of LDL particles, which are associated with cardiovascular disease alongside inflammation.^[2]

Alongside targeted supplementation, focus on a diet rich in plant foods. Research shows a correlation between a diet high in plant foods, particularly a vegan diet, and lower cholesterol levels.^[3] One aspect is that plants are rich in soluble fibre, which helps lower cholesterol. Oats, barley, and beans, and some fruits and vegetables are good sources of soluble fibre. A plant-based diet may also help maintain a healthy weight, be lower in saturated or trans fats, and lower in ultra-processed foods, benefiting total cholesterol and triglycerides.

Aim to include more plant foods at every meal and snack, alongside lots of healthy fats, avocados, nuts, seeds, and legumes. Aim for two to three portions of omega 3-rich oily fish a week, and include walnuts, chia seeds, flaxseeds, and hemp seeds for vegan options.

The aim is to support long-term cardiovascular health and a healthy cholesterol balance. Focus on an anti-inflammatory, antioxidant-rich diet, and consider supplementing with some targeted nutrients, such as krill oil and bergamot extract.



ABOUT THE EXPERT

Lindsay Powers is a Nutritionist and Health Coach Manager at the supplement brand, Good Health Naturally.





Where are the causes of acid reflux and what nutritional interventions can be recommended?

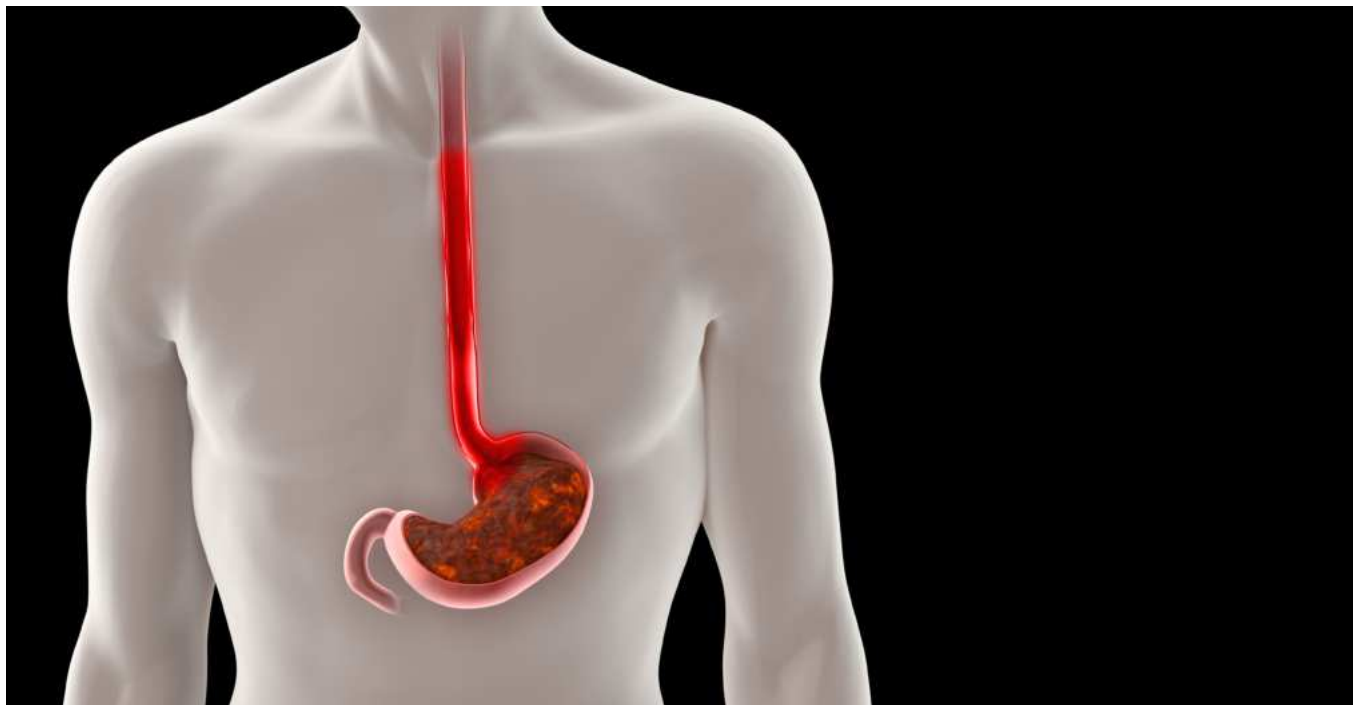
SUE MCGARRIGLE EXPLAINED: Acid reflux is a common medical condition that can range in severity from mild to serious, with an array of uncomfortable symptoms. Gastroesophageal reflux disease (GORD) is the chronic, more severe form of acid reflux, with the classic common symptom of heartburn that one in four adults suffer in the UK and is often associated with a sour taste in the back of the mouth. Some GORD individuals may also experience chronic nausea and vomiting, tooth enamel decay, gingivitis, and halitosis.

Acid reflux is unlikely to be an excess acid problem but more of a dysfunction or relaxation of the lower oesophageal sphincter (LOS), which should only open to allow food into the stomach or for a burp. If the LOS is working properly, acid should not back up into the oesophagus. Transient lower oesophageal sphincter relaxations (TLOSRS), brief moments of lower oesophageal sphincter tone inhibition that are independent of a swallow, are found in most cases. Antihistamines, bronchodilators, NSAIDs, muscle relaxants, calcium channel blockers, excess alcohol, certain foods, and smoking may also cause TLOSRS.

GORD is primarily a disorder of the LOS but there are several factors that may contribute to its development. Parasympathetic activity impairment is associated with its pathogenesis, but that is also the primary factor contributing to the pathophysiological mechanism of reflux. Other considerations: eating habits such as the acidity of food, as well as size and timing of meals, particularly with respect to sleep.

An increase in intra-abdominal pressure (IAP) can cause reflux to occur when this pressure causes gastric distention that pushes the stomach contents through the LOS into the oesophagus. IAP can be caused by insufficient stomach acid, which can further contribute to bacterial overgrowth and SIBO, carbohydrate malabsorption and relaxation of the LOS. Fermentation of carbohydrates that have not been digested properly can create hydrogen gas, (the preferred energy source for *H. pylori*), and wheat and excess fructose may also increase it.

Other contributory causes could involve stress and reduction of HCL production, (which in turn, leads to a decrease in mucus protective actions, and reduction in the pressure gradient at the oesophagus base), hiatus hernia, scleroderma, *H. pylori* infection, poor digestion of food, and delayed gastric emptying, peristaltic dysfunction, high dietary fat, weight issues, ageing and pregnancy.



Silent reflux is a condition in which stomach acid causes throat discomfort, especially behind the breastbone in the middle of the trunk. It is not uncommon to complain of a feeling of fullness or a lump in the back of the throat, referred to as globus sensation.

I find mastic gum, fennel, and aniseed useful in this type of situation

to help with digestive discomfort and support tissue health, regulate inflammation and *H. pylori*, as well as the use of digestive enzymes with friendly bacteria to support overall digestive health. A balanced, healthy diet without excess carbohydrates goes without saying.



ABOUT THE EXPERT

Sue McGarrigle ND DiplON mBANT is a Clinical Nutritional Therapist and Naturopath and has practiced since 2001. Sue works for Bionutri, advising and helping practitioners in their various practice matters. As a lecturer to college and university students to Masters level, Sue has trained hundreds of healthcare and medical practitioners in many aspects of nutritional therapy. She writes as a regular contributor for magazines and newspapers and has been a guest speaker at national level. Her lectures and webinars offer a comprehensive approach to nutrition practice and practical naturopathic techniques. Sue is also a member of the BANT Professional Practice Committee.



How can sage help clients who are experiencing peri-menopausal hot flashes?

KATHERINE PARDO SUGGESTED: The cause of the hot flash is down to one very important gland, the hypothalamus. As a master gland, it is the hypothalamus' job to keep all of the hormones in check and in balance with each other. Another of its major responsibilities is regulating body temperature. During peri-menopause, as hormone levels start

to fluctuate, the hypothalamus tries desperately to keep all of its plates spinning, sometimes at the cost of regulating body temperature.

Although not considered to pose any inherent risks to health, hot flashes can be incredibly uncomfortable for the sufferer, interfering with normal daily functions and causing increased stress, lowered mood and

poorer sleep quality. The sage plant, a member of the Lamiaceae family native to Mediterranean Europe, has a long history of traditional use in supporting a reduction in hot flashes, night sweats and associated climacteric complaints in menopausal women.

In 2016, a double-blind randomised clinical trial was performed on 100 menopausal women with hot flashes. In the study, the women were divided into two groups and given either three sage tablets (100mg) or a placebo daily for eight weeks. Oestradiol hormone levels and menopause symptoms were evaluated using the Menopause Rating Scale (MRS) one week before and after eight weeks. Duration, intensity, and frequency of hot flashes and night sweats were also evaluated every week, and the two groups were compared in terms of these variables. After eight weeks, hot flashes, night sweats, and MRS scores significantly decreased in the sage group compared to the control group. The researchers concluded that extracts of sage significantly reduced the frequency, severity, and duration of treatment of hot flashes, night sweats, and other menopausal symptoms and can be considered as a safe and effective alternative therapy for the individuals who are not able to use HRT.²

So, for women suffering with unpleasant flashes and other symptoms during the peri-menopause, the mighty sage plant – which has been shown to provide some real benefits both anecdotally and in a clinical setting – may just provide the answer. When considering supplementation with this valuable herb, it's important to note that fresh sage extracts are regarded as superior in terms of efficacy.



ABOUT THE EXPERT

Katherine Pardo BSc (Hons), Dip ION is Head of Nutrition & Education at Nutri Advanced. After beginning her career as a writer and editor for healthcare publications, Katherine trained as a Nutritional Therapist, graduating from London's Institute of Optimum Nutrition in 2001. She went on to practice as a Nutritional Therapist, before becoming Nutrition Team Manager at Nutri Advanced, where she heads the team of nutritionists, writers and researchers who develop Nutri Advanced's range of innovative products, programmes and educational resources.



Vitamin K2 - the essential calcium companion

Katarzyna Maresz PhD discusses the role of vitamin K2 in supporting bone health, while protecting heart health.

Two of the largest issues facing the global population are compromised bone and heart health. But what if this reality could be changed with a simple vitamin?

We are all familiar with calcium serving as the foundation of healthy bones, but it is also known that excessive calcium supplementation can lead to increased cardiovascular risks. Vitamin K2 as MK-7 (menaquinone-7) is the answer to making this nutrition staple safer and more effective.

Unfortunately, even the healthiest diets do not deliver K2, leaving 97 per cent of the population deficient.^[1]

UNDERSTANDING VITAMIN K FAMILY

Vitamin K is actually a family of vitamins comprised of vitamin K1 (phylloquinone) and vitamin K2 (menaquinone). Phylloquinone and menaquinone share similarities, such as working in the liver for blood clotting, and chemically, they share a quinone ring called menadione. But that is where their similarities end.

Vitamin K2 has several molecules, called menaquinones, which allow it to bypass the liver for other systems, such as bones and heart. There are actually multiple forms of K2, but the two most common forms as dietary supplements are K2 as MK-4 (menaquinone-4) and K2 as MK-7 (menaquinone-7). Vitamin K2 as MK-7 is superior since it requires a single daily microgram dose and works for 72 hours compared to K2 as MK-4 that requires multiple daily milligram intake and works for only an hour and a half.^[2,3]

Natural vitamin K2 is produced during bacterial fermentation and is present in foods, such as cheese (the most popular Western source). However, these products contain relatively small levels, requiring large amounts to be consumed daily to reach even the minimum effective requirement. To this end, there are clear indications that Western populations have insufficient intake of vitamin K2 from their regular diets, making supplementation a viable alternative.





THE K2 MECHANISM

Vitamin K2 activates vitamin K-dependent proteins (VKDP) already present in the body. Most of the research focuses on two VKDPs: matrix Gla protein (MGP) and osteocalcin (OC). Both proteins have a common mineral acquaintance: calcium. MGP inhibits calcium from depositing in arteries and soft tissues, while OC binds calcium to the bone mineral matrix for stronger skeleton.

Unfortunately, not all incoming calcium is directed to bones and teeth; some will rest in arteries and soft tissues. The more incoming calcium – with no or not enough vitamin K2 – the more is deposited into arterial blood vessels, increasing cardiovascular risks. But when the body has enough K2, it accelerates MGP's activity of transporting incoming calcium out of arteries and boosting OC's bone remodeling activity.^[4,5]

PROVEN BONE BENEFITS

Vitamin K2 supports bone health through its activation of OC. This has been established in numerous studies, highlighted by a breakthrough double-blind, randomised clinical trial using a specific K2 as MK-7 called MenaQ7. The study demonstrated for the first time clinically statistically significant protection of the vertebrae and the hip (femoral neck) against bone loss. This was attained with a nutritional dose (180mcg) of K2 as MK-7 taken daily for three years.

In this study of 244 healthy post-menopausal women, the K2 group showed significantly decreased circulating uncarboxylated OC (ucOC). After three years, both bone mineral content and bone mineral density and bone strength were statistically significantly better for the MK-7 group than the placebo group.^[6]

Further, vitamin K2's importance for impacting bone health is not limited to adult populations:

- A 2012 study showed of children and adults showed that children expressed the greatest K deficiency and had the strongest response to K2 supplementation (45mcg for children; 90 mcg from adults; both as MenaQ7).^[7]
- A 2009 study of healthy prepubertal children aged six-10 years showed that taking just 45mcg of K2 (as MenaQ7) a day resulted in more active OC, leading to stronger, denser bones.^[8]



CONFIRMED CARDIO-PROTECTIVE NUTRIENT

The strongest body of growing evidence shows vitamin K2's positive impact and support for cardiovascular health.

Previous population-based studies have shown an association between K2 intake and cardiovascular risk^[9,10], but substantiation for its cardiovascular benefits culminated with another three-year study using a nutritional dose (180mcg) of K2 (as MenaQ7). This was the first intervention trial focused on K2 as MK-7 supplementation with cardiovascular endpoints.

Using the same cohort as the three-year bone study, researchers monitored subjects using pulse wave velocity (PWV) and ultrasound techniques. The participants were randomly assigned to take K2 daily for three years or placebo capsules. Results confirmed that K2 as MK-7 inhibited age-related stiffening of the artery walls and made an unprecedented statistically significant improvement of vascular elasticity.^[11]

A separate one-year placebo-controlled, randomised clinical trial showed that 180mcg/day of K2 (MenaQ7) improved vascular health in both male and female participants with poor K status, as measured by dp-ucMGP (inactive MGP). Regardless of the participants' sex, the K2 group maintained arterial flexibility, and the stiffness did not increase, whereas the placebo group became stiffer and less flexible.^[15]

Vitamin K2 as MK-7 is the only compound to date shown to impact arterial calcification through its activation of MGP.



Katarzyna Maresz holds a PhD in Biological Sciences from the Medical Faculty of the Jagiellonian University, Poland, and practiced at the Laboratory of Cellular and Molecular Immunology, Blood Research Institute in Milwaukee, WI, USA. Having published more than 30 scientific papers, she is involved in clinical trials with vitamin K2 in Poland and Europe, cooperating with many research centres

regarding K2 health effects and mechanism of action. She has published peer-reviewed papers in the K2 field and presented at scientific meetings. Dr Maresz is currently President of the International Science and Health Foundation and the scientific coordinator of the educational portal, Vitamink2.org

IMPORTANT CONSIDERATIONS

The only contraindication for vitamin K2 is using an anticoagulant. Thankfully, the new class of oral anticoagulants emerging are not vitamin K antagonists and relatively devoid of major safety considerations.

Still, it is recommended that anyone taking an anticoagulant confer with their physician before adding a K supplement to their regimen.

CONCLUSION

Vitamin K2 as MK-7 safely and effectively delivers benefits for adults and children, serving as an essential companion for calcium supplementation. By implementing this simple nutritional strategy, the population can simultaneously support their bone health while protecting themselves from cardiovascular risks.

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Cooking for wellbeing

Nutritionist, Gabriela Peacock, inspires us with nutritionally-packed recipes that are realistic and sustainable for time-pressured people.



Vegan breakfast bars



Rhubarb and red
berry pots



Prawn and avocado
summer rolls



Cauliflower steaks with olive
and caper salsa



Vegan breakfast bars

These super-convenient bars are packed with protein and make a great breakfast on-the-go or a delicious mid-afternoon snack. They will live happily in the refrigerator for up to three days in an airtight container and in the freezer for up to one month – just remember to take them out to thaw in advance.

Makes 10 bars

Prep: 10 minutes

Chill: 20 minutes

Ingredients:

- 60g (2¼ oz) cashew butter
- 2tbsp agave syrup
- 150g (5½ oz) Medjool dates, pitted and roughly chopped
- 4tbsp pumpkin seeds
- 4tbsp chia seeds
- 100g (3½ oz) jumbo rolled oats (gluten-free, if preferred)
- 50g (1¾ oz) almonds, chopped

Method:

- Line a 20cm (8in) square baking tin with non-stick baking paper. Melt the nut butter and agave in a small saucepan over a low heat.
- Meanwhile, blitz the dates in a food processor until they come together in a soft ball. If they're not looking sticky enough, add a tablespoon of boiling water and blitz again.
- In a large bowl, mix the date paste with all the remaining ingredients and add the melted nut butter and agave. With clean hands, get stuck in and mix everything together, until all the ingredients have been evenly dispersed.
- Spoon the mixture into the lined tin and smooth over the top. Cover and chill in the fridge for 20 minutes until firm to the touch, then cut into 10 bars.



RHUBARB AND RED
BERRY POTS



PRAWN AND AVOCADO
SUMMER ROLLS



CAULIFLOWER STEAKS
WITH OLIVE AND CAPER
SALSA



Rhubarb and red berry pots

Rhubarb is packed with soluble fibre, which is essential for healthy digestion, as well as vitamin K and calcium. This recipe has been designed to be on the tart, refreshing side, so do add a little more agave if you prefer it sweeter. These pots make a great breakfast and can also work as a healthy pudding on mindful days. They will keep in the refrigerator for four days, while the toasted nuts will last happily in an airtight container for up to a week.

Serves 4

Prep: Five minutes

Cook: 20 minutes

Ingredients:

- 350g (12oz) rhubarb, chopped into small pieces
- 3tbsp agave syrup
- Juice of 1½ lemons
- 1tbsp water
- 40g (1½ oz) rolled oats (gluten-free, if preferred)
- A small handful of your favourite nuts (about 20g/½ oz), chopped
- 400g (14oz) live Greek or nut yogurt (coconut, almond or cashew)
- A handful of red berries (raspberries or strawberries)

Method:

- Preheat the oven to 200°C (400°F), gas mark 6.

Arrange the rhubarb in the bottom of a baking dish, making sure the dish is big enough to fit it in a single layer. Add two tablespoons of the agave syrup and the lemon juice. Cover the dish tightly with foil.

- Mix the rest of the agave syrup with one tablespoon of water. Spread the oats and nuts out on a baking tray and coat them with the agave-water mix. Put them both into the oven at the same time.
- Take the nuts and oats out after about 15 minutes, or when they are lightly golden. Take the rhubarb out about five minutes later (it should cook for a total of 20 minutes) or when it is lovely and soft. Leave them both to cool.
- Spoon the rhubarb and yogurt in alternate layers into four small glasses or pots. Keep in the refrigerator until needed. When ready to eat, sprinkle over the toasted oats and nuts and the red berries.



VEGAN BREAKFAST BARS



PRAWN AND AVOCADO SUMMER ROLLS



CAULIFLOWER STEAKS WITH OLIVE AND CAPER SALSA

Prawn and avocado summer rolls

These fresh, vibrant rolls have an Asian note to them, especially with the dipping sauce, which is full of flavour. With plenty of fibre and texture, they not only look beautiful, but are hugely versatile – from a light lunch, to a snack, to a canapé. Take your pick.

Serves 2 (makes 6 rolls)

Prep: 15 minutes

Ingredients:

- 130g (4½ oz) red or white cabbage, thinly sliced
- 1 carrot, grated
- 1tbsp lime juice
- ½ tbsp sesame oil
- 6 rice papers (22cm/8½ in in diameter)
- 12 mint leaves
- 12 cooked, peeled king prawns
- ½ avocado, cut into 6 slices
- Sea salt and freshly ground black pepper

For the tahini dipping sauce:

- 3tbsp tahini paste

- 1tbsp sesame oil
- 3tbsp water
- 1 small garlic clove, grated
- 1cm (½ in) piece of fresh ginger, peeled and grated
- 2tbsp lime juice
- 2tbsp rice wine vinegar
- 1tsp agave syrup
- 1tsp tamari or soy sauce
- Pinch of chilli flakes

Method:

- Put the cabbage and carrot into a bowl, mix in the lime juice and sesame oil, then season.
- Make the dipping sauce by mixing the tahini, sesame oil and water together in a bowl until the tahini has thinned out. Add the garlic,

ginger, lime juice, rice vinegar, agave and tamari or soy. Sprinkle with the chilli flakes.

• Fill a shallow dish with water and soak the first rice paper for about 20 seconds until it's soft enough to use. Place it on a flat surface. Spoon some of the cabbage mixture along the centre of the rice paper, then add two mint leaves, two prawns and a slice of avocado. Fold the edge of the paper nearest to you over the filling, then roll it away from you so the filling is tightly wrapped (the rice paper should be quite sticky by now). Fold each end in. Repeat this process until all six are complete.

• Serve with the tahini sauce for dipping.



VEGAN BREAKFAST BARS



RHUBARB AND RED BERRY POTS



CAULIFLOWER STEAKS WITH OLIVE AND CAPER SALSA

Califlower steaks with olive oil and caper salsa

Cauliflower steaks are all the rage at the moment and rightly so, as cruciferous vegetables are very good at supporting healthy liver function. They are roasted in the oven here but try them on the barbecue in summer as a vegan option. Serve with a handful of rocket spritzed in lemon juice as a cheerful little sidekick.

Serves 2

Prep: 5 minutes

Cook: 35 minutes

Ingredients:

- 1 large cauliflower
- 1tsp olive oil
- Pinch of paprika
- 2tbsp flaked almonds
- 1tsp vegan butter
- 2tbsp pitted green olives, chopped
- 1tsp capers, drained
- 2tbsp apple cider vinegar
- A small handful of parsley, chopped
- Sea salt and freshly ground black pepper

Method:

- Preheat the oven to 200°C (400°F), gas mark 6 and line a baking tray with non-stick baking paper.
- Trim a little off the stalk of the cauliflower before

carefully cutting two slices (roughly 2cm/¾ in thick) through the middle (the stalk will hold them together). Save the rest to make soup or cauliflower rice.

- Lightly brush each side of the steaks with the oil. Season with salt, pepper and paprika, then roast for 20-25 minutes, carefully turning them over halfway through the cooking time, until they start to turn a light golden brown and feel tender when prodded with a fork.

- Lightly toast the almond flakes in a hot, dry frying pan over a medium heat for a few minutes, keeping an eye on them to make sure they don't catch. Melt the butter in a saucepan over a medium heat, then toss in the chopped olives and capers and cook for about two minutes until they start to slightly crisp up. Switch off the heat and stir in the apple cider vinegar and parsley. Drizzle the salsa over the steaks and scatter over the almonds to serve.



RHUBARB AND RED BERRY POTS



VEGAN BREAKFAST BARS



PRAWN AND AVOCADO SUMMER ROLLS



2 Weeks to Feeling Great, by Gabriela Peacock, is published by Kyle Book, priced £20. Food photography: Kate Whitaker.

Innovative ADM



Research and development are at the heart of the forward-thinking ADM Protexin, and the pandemic has done nothing to slow innovation for its Bio-Kult and Lepicol brands.



Functional Food for Innovation
Bacillus subtilis PXN®21®

Probiotic of the Year
Bio-Kult Migréa

Innovation is the lifeblood of the natural health sector, and as Nutritional Therapists, you will be seeking brands that remain at the forefront when it comes to well-researched, efficacious and quality products.

By way of example, we have ADM Protexin, manufacturers of the Bio-Kult and Lepicol brands. Despite the challenges of the Covid-19 pandemic, this company has forged ahead with its NPD programme, releasing a number of exciting new products to market that are backed with an evidence-based approach.

And this is very much the principle of ADM Protexin, only launching new products when the team is convinced there is enough research to back up its development.

Hayley Milne, Marketing Manager (Human Healthcare), explained: "It's certainly been a busy and exciting few years for ADM Protexin. Our fabulous range of healthcare products, including high fibre range, Lepicol, and the leading live bacteria brand, Bio-Kult, have won countless product awards across the healthcare industry. Perhaps most

exciting was winning not one, but two awards at the 2020 Nutraingredients Awards. Bio-Kult Migréa picked up the title Probiotic of the Year, meanwhile, the main bacteria strain in Bio-Kult Mind, *Bacillus subtilis* PXN 21 was awarded the Editor's Choice award for Functional Food Innovation.

"Our sister company, ADM Biopolis, also picked up a third award for ADM, making it the company's most successful year at these awards."

And it doesn't end there, with Hayley adding: "As a business, we're continuing to invest even more into research and new product development and we've launched four new products in the past 18 months and had a key research paper published, with another due for publication any day now.

"Excitingly, through this period, we've been able to open our highly anticipated new onsite facilities. Our bespoke 175m² facility comprises a designated microbiology area, post incubation area, as well as specific media and chemistry areas, enabling the vast majority of subcontracted testing to be bought in-house."

RESEARCH FOCUS

ADM Protexin is a company committed to research, investing much resource into this.

“Our investment in research is significant, both in terms of finances but also time; it is a long process, from setting up the study design, with the clinical organisations, then ethics and then the actual study. It is a long and detailed process, it’s a big commitment for us but we believe it is important to put a lot of resources into clinical trials,” Hayley commented.

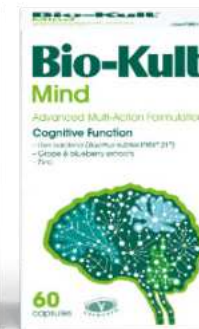
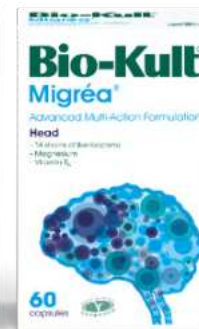
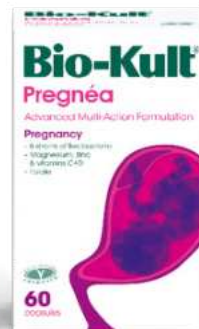
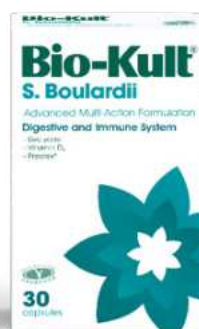
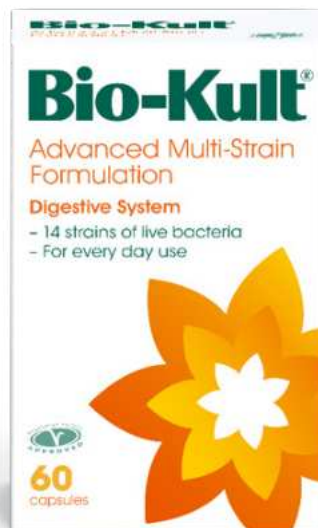
“The research behind a product and its benefits is something that both professionals and consumers are demanding more of. And whilst it can take a long time to get to the results of a clinical research study, we believe it’s the best way forward. New research is emerging all the time so watch this space for our latest developments in this field.”

She added: “The launch of Bio-Kult Mind is a fine example of why research is so important. Research into the use of live bacteria supplements is a fast-growing area and the results that are coming from studies are truly fascinating. We’re learning more about gut health and how the gut can impact all the areas of the body. Such research is leading to finely tuned products on the market, which is a bonus for both the pharmacy and the end consumer.

“These research-backed ingredients and end products are fillings gaps on the shelves that pharmacists didn’t realise they had. At least for ADM Protexin, this approach is helping us create successful products that prove to be rising stars within the gut health industry.”

Referring back to the published paper, Hayley pointed out that it showed *Bacillus subtilis* PXN 21, found within several Bio-Kult products but at its highest concentration in Bio-Kult Mind, can slow – and even reverse – build-up of a protein associated with Parkinson’s.

She went on: “Building on previous research linking brain function to gut bacteria, this study in a Parkinson’s model of roundworms, the specific bacteria strain, *Bacillus subtilis* PXN 21 – prevents the formation of toxic clumps that starve the brain of dopamine, a key chemical that coordinates



then working research going through

movement. These new findings could pave the way for future studies that gauge how supplements such as live bacteria impact the condition.

“The researchers from the Universities of Edinburgh and Dundee used roundworms altered to produce the human version of alpha-synuclein that forms clumps. They fed these worms with different types of over-the-counter live bacteria supplements to see if bacteria in them could affect the formation of toxic clumps. The scientists found that *Bacillus subtilis* PXN 21 had a remarkable protective effect against the build-up of this protein and also cleared some of the already formed protein clumps. This improved the movement symptoms in the roundworms. The researchers also found that the bacteria was able to prevent the formation of toxic alpha-synuclein clumps by producing chemicals that change how enzymes in cells process specific fats called sphingolipids.”

The study, published in the journal, *Cell Reports*, was funded by Parkinson’s UK, the EMBO and the European Commission.

As part of its R&D commitment, innovation will only take place at the company where the team can demonstrate the evidence is there to offer benefit.

Janine Barlow, Global Accelerator Microbiome, who manages the NPD process, advised: “It is a complex process to launch a new product. A need for the product has to have been identified, the product has to be efficacious, well researched, and produced to high quality standards – such parameters can be set during the manufacturing trials of the new product. With many new products under development, we’re always working on something. It might be a product that could launch this year or in 10 years’ time. Our passion and commitment to taking the time to get it right is just one of the reasons we continue to be the market leaders in the live bacteria industry.”

And it’s been quite a successful period when it comes to

NPD; the start of 2020 saw the launch of Bio-Kult Mind, a formulation containing the already mentioned *Bacillus subtilis* PXN 21 alongside bioavailable flavonoids and zinc to support normal cognitive function. This product launched in time with the results from the Edinburgh University research into Parkinson’s.

Hayley added: “At the end of February 2020, we launched two new products into the market, Bio-Kult S. Boulardii and Bio-Kult Boosted. *Saccharomyces boulardii* is a well-known yeast strain within the health food industry and creating a Bio-Kult product around this strain, in order to provide people with the strain they were looking for in their preferred



Callum Heron, Analytical Chemist

bacteria brand, made sense. We also added Preplex and vitamin D3 to support the normal function of the immune system.

“Our most successful product launch was at the same time as Bio-Kult S. Boulardii and was the launch of Bio-Kult Boosted. We listened to our customers, who were asking for a higher CFU count of the original Bio-Kult formulation. As most people looking for a higher CFU count are likely to be taking alongside antibiotics or travelling, we opted to add vitamin B12 to help the normal function of the immune system. Alongside the original Bio-Kult, Bio-Kult Boosted has quickly become our top product.”

Then there has been the most recent launch, Bio-Kult Pregnéa, which contains six strains of its unique live bacteria, as well as a number of vitamins and minerals that support women during pregnancy, from pre-conception to beyond birth; zinc contributes to normal fertility and reproduction, folate contributes to maternal tissue growth during pregnancy, and magnesium contributes to a reduction of tiredness and fatigue.

“There’s a lot of support out there for women when they’re pregnant but we didn’t feel there was a really rounded approach to supporting the gut during pregnancy, including both pre-conception and in the post birth time,” Hayley explained. “It’s early days, yet but we’re seeing a positive reaction from wholesalers, practitioners and the end consumer.”

“Excitingly, we’ve got a new product launching in July – so keep your eyes peeled for this imminent launch.”



BRAND DEVELOPMENT

The last year has brought huge challenge to the natural health industry but we are emerging with what appears to be a more educated consumer when it comes to caring for their own health.

In terms of the ADM Protexin experience, Hayley reported: “The Human Healthcare range continues to see an impressive growth both in the UK and worldwide, which can be attributed towards the ever-growing library of research backing live bacteria supplements. Likewise, end consumers are now savvier when it comes to understanding the importance of good gut health. Customers want to see high quality, multi-strain live bacteria supplements, with a CFU count that lasts until the end of the shelf life.”

“Over the past few years, consumers and professionals are gaining better understanding of our bodies, and the importance of supporting good gut health to support and maintain overall wellness. The arrival of Covid-19 has really brought the importance of looking after our body, inside and out to the forefront of many people’s minds. As such, more people are seeking ways to help support their immune health and overall wellbeing. This has obviously led to an incline in probiotic sales and ADM Protexin was already well known in the industry and able to support the increase in demand.”

And with the NPD that has been released, it’s clearly an exciting time for practitioners to be working with the brand.

“Feedback from practitioners so far has been positive,” Hayley commented, adding: “The fact that we cultivate our own strains definitely makes us stand out from the rest of the market. We have complete control over our products in a way that can only be achieved if you manage the process from start to end. What’s more, all products are subject to the same high standard of production and quality control as pharmaceutical products.”

“Something else that really sets us aside from our competitors are our on the road team. Everyone is a fully qualified Nutritional Therapist, there to help practitioners with CPD accreditations and to share the latest research in the ever-growing body of evidence supporting the importance of good gut health, and understand the mechanisms of action. We also provide support and guidance for their clients to ensure both practitioners and clients make informed decisions. High quality products, backed by research, both marketing and team support, alongside a brand name well-established amongst professionals and consumers alike mean that practitioners can rest assured they’ve got a fantastic offering for their clients.”

And this focus on developing the brands looks set to continue, with Hayley concluding: “Let’s just say it’s an extremely exciting time to be part of the ADM Protexin team, with plenty on the horizon! July and August, in particular, are going to be incredibly exciting times for us. New product, another piece of amazing research published, and that’s just the tip of the iceberg.”



Hayley Milne

I-Mag giveaways



We showcase a selection of giveaways on offer to readers this issue.



Organico It's Soya Good

It's Soya Good Fajita Strips and Kebab pieces by Organico offer up the perfect meat replacement. The soya strips and pieces are organic, vegan, GM-free, require no refrigeration, contain nothing but 100 per cent soya bean, and are quick and easy to prepare. Fantastic meat-free meals have never been so easy to prepare, and the combinations with these products are limitless.

I:Win: We have 10 sets comprising It's Soya Good Fajita Strips and Kebabs to give away.

MINAMI CBD + OMEGA-3

The power of CBD and omega 3 combined, and high concentration and purity is achieved by Minami's unique CO2 extraction process, which allows it to have up to three times more omega 3 in one capsule. In Minami's CBD, the whole hemp plant (full spectrum CBD) is used to achieve the 'entourage effect', contributing to the wide range of benefits. The omega 3 is sourced from small freshwater fish. CBD is fat soluble and therefore to be absorbed, it requires fat in the diet. Supplementing with omega 3 may help the absorption of CBD.

I:Win: We have 20 to give away.



BioCare Collagen Complex

A unique combination of nutrients including collagen, hyaluronic acid, nucleotides and antioxidants for skin, joint and bone support, Collagen Complex uses the superior form of type 1 marine collagen, which is easily absorbed and rapidly transported into the bloodstream, quickly reaching the target tissues. Nucleotides are the building blocks of our DNA, needed for the fast-replicating cells of connective tissue. It also includes a rich mix of antioxidants and flavonoids, including vitamin C, zinc, hesperidin, rutin and rosehip powder. Vitamin C supports collagen formation for healthy skin and bones and protects cells from oxidative stress. Zinc contributes to normal DNA and protein synthesis. Now available in recyclable glass packaging.

I:Win: We have four 60-capsule jars to give away.



NATURAL BY NATURE OILS TRANQUIL BODY OIL

Carefully blended using the purest of ingredients, this body oil nourishes and moisturises the skin. Containing essential oils of orange, geranium, patchouli and chamomile Roman in a base of almond, argan and jojoba oils, it will leave your skin feeling smooth and your mind calm. Natural by Nature only sources the highest quality and purest of ingredients for its products and none of them are tested on animals.

I:Win: We have five to give away.



Altrient®

CUTTING EDGE LIPOSOMALS



Neutrient

The Science of Nature

PUT SOME PREP IN YOUR STEP



- ✓ FIRST OF ITS KIND MIXED ASCORBATE POWDER WITH D-RIBOSE
- ✓ ADDED DHQUERCETIN COMPLEMENTS THE ACTIONS OF VITAMIN C
- ✓ WITH ASCORBYL PALMITATE THE FAT SOLUBLE FORM OF VITAMIN C
- ✓ CONTAINS MAGNESIUM ASCORBATE
- ✓ AVAILABLE IN 4 & 8 MONTH SUPPLY



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