

GOOD HEALTH — Should you

By LOUISE ATKINSON

THERE has long been debate about supplements — whether they can boost your health by ‘supplementing’ the nutrients you get from food or whether they are merely expensive placebos.

For the most part, experts agree that we should be getting our nutrients from a healthy balanced diet rather than pills: the exceptions are vitamin D (most of us in the UK lack it over winter), folic acid (for women who may become pregnant) and vitamin B12 for vegans (as the main source is meat and dairy). Some people may also be prescribed certain supplements due to conditions such as anaemia.

Yet despite the expert view, the supplements market is huge — and growing in this Covid world. Each year in the UK we spend around £442 million on vitamins and minerals because, according to research by the Food Standards Agency, we’re looking for an extra boost to our immunity and energy levels, or to top up general health. The Health Food Manufacturers Association says sales of vitamin and mineral supplements, as well as other nutrition products, have jumped in the UK by 17.3 per cent since last year.

But if, despite the expert view, you still decide to take supplements, what should you be looking for? They can vary enormously in cost, with even multivitamin capsules ranging from just £3 for a month’s supply to £20 at the top of the market.

Yet as Margaret Rayman, a professor of nutritional medicine at the University of Surrey, says: ‘It would be wrong to assume that just because you’re paying more, you are getting a better product.’

COSTLY PILLS MAY BE BETTER ABSORBED

PREMIUM manufacturers claim that their higher prices cover the cost of ingredients that are, for instance, environmentally friendly, and formulations that are more effectively absorbed by the body.

The vitamins and minerals in any supplement, whether cheap or premium, are generally either ‘synthesised’ in a chemical process or extracted directly from foods.

For instance, vitamin C is created by fermenting corn starch to create ascorbic acid. Techniques for creating vitamin D include shining strong UV lights on lanolin (an oil extracted from sheep wool), creating vitamin D3, the form considered most important to our health.

These ‘active’ ingredients are then mixed with various additives, called ‘excipients’, to make a product that is easy to consume in pill or spray form, for example.

These might include anti-caking agents such as magnesium stearate, which help sticky or porous ingredients slip over each other more easily during production; binders, which glue the ingredients in a single product together; and ‘fillers’ such as lactose (milk sugar) to create a tablet when the dose of the ingredient is particularly small.

If you’re paying for a premium product, some components might be environmentally friendly, such as fish oil from sustainable sources (e.g. krill) and glass rather than plastic packaging.

One of the main boasts made by premium brands is that their formulations are scientifically modified to boost bioavailability — the rate at which your body absorbs the nutrients. But whether you need this enhancement depends on the individual.

For instance, low-cost calcium supplements contain calcium carbonate, which is a cheap and useful way to support bone health.

Premium supplements might instead use calcium citrate or ‘chelated’ calcium, which studies have shown is released more easily, particularly in older people who have reduced stomach acid.

‘Carbonate requires good levels of stomach acid for effective absorption, and we know calcium citrate, which contains less calcium, has a 20 per cent better absorption rate,’ says Aidan Goggins, a pharmacist with a masters in nutritional medicine and author of *The Health Delu-*

sion. ‘Carbonate is good enough for most of us, but you might want to consider paying more for a product containing calcium citrate if you’ve got low levels of stomach acid or you’re taking medication to reduce stomach acid.’

It’s a similar story with zinc, which supports the immune system and metabolism. A low-cost product might contain zinc gluconate, which can cause nausea in some; a more expensive formulation may use zinc citrate or zinc acetate, which have been shown to be easier to absorb.

‘Some people have a bullet-proof

stomach, but others find certain zinc formulations trigger nausea,’ says Aidan Goggins. He suggests starting with the low-cost version and trading up only if you experience gut problems.

Turmeric is another example of a popular supplement that now comes in various premium-priced forms. This root (used in cooking in its ground form) contains a compound called curcumin, which is extracted for use in supplements. Studies have suggested curcumin has anti-inflammatory and antioxidant properties and while the evidence in humans is

not consistent, it is a popular choice for people with joint pain.

However, according to Aidan Goggins, curcumin is poorly absorbed and quickly metabolised — which means it goes through the system without any beneficial impact, unless consumed with heat, pepper and fat (i.e. in a curry).

A study published in 1998 found that adding piperine (extracted from black pepper) could boost absorption by 2,000 per cent. ‘It sounds impressive, but a 2,000 per cent improvement on a very small number is still a small number,’ says Mr Goggins.

Both Solgar Full Spectrum Curcumin (30 capsules, £28.99) and Healthspan Opti-Turmeric (30 capsules, £10.95) incorporate this new technology, claiming their products are around 180 times better absorbed than standard powdered turmeric (which might cost 85p for a 45g jar from the supermarket).

However, Professor Rayman advises that some ‘enhanced bioavailability’ claims don’t necessarily ensure a product is more effectively utilised by the body, and it depends on the product.’

Much of her research has been on the mineral selenium (an antioxidant that reduces chronic inflammation and enhances

SWALLOW the cost of PREMIUM vitamins?

We’ve all rushed to buy supplements in the Covid crisis, but the prices — and quality — can differ dramatically. So which ARE worth splashing out on, and which are budget bargains...

Picture: ALAMY

TABLETS, GUMMIES OR SPRAYS ... WHAT’S BEST?

TABLETS: They have a longer shelf life than liquids or gummies but they’re not always suitable for delivering large doses, which might make them physically too big to easily swallow. However, tablets can be broken in half if a smaller dose is required.

CAPSULES: These usually have a gelatine case, which breaks down as it passes through the gut so their contents are absorbed more swiftly. They are easier to swallow than tablets — or the case can be opened and the contents scattered over food.

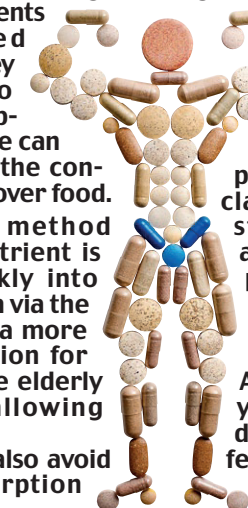
SPRAYS: This method ensures the nutrient is absorbed quickly into the bloodstream via the tissues and are a more convenient option for children and the elderly who find swallowing tablets difficult.

Mouth sprays also avoid potential absorption

problems if you have gut issues such as IBS, Crohn’s and coeliac disease. However, they’re often a premium price for an inexpensive product.

GUMMIES: These look and taste like a sweet. ‘Gummies might be great for children who can’t swallow a tablet but they’re not great for adults. You might as well buy a packet of wine gums and a low-cost supplement,’ says pharmacist Aidan Goggins.

EFFERESCENT TABLETS: Fizzy tablet versions of multivitamins and vitamin C are a popular alternative and claim to be easier on the stomach and rapidly absorbed (since the compound is already dissolved when you drink it). For magnesium oxide this is particularly true, says Aidan Goggins. It means you get more active ingredient in a lower dose and fewer risks of side-effects such as diarrhoea.



B12 is good enough for topping up your body’s stores,’ says Aidan Goggins. ‘Methylcobalamin is only preferable if you have a vitamin B12 deficiency causing a medical condition, which is something you should discuss with your GP.’ This form is more expensive.

Low-cost iron supplements taken for anaemia tend to use inexpensive ferrous sulfate (extracted by applying sulphuric acid to iron) or ferrous fumarate.

Some people struggle to absorb iron from supplements, resulting in discomfort and constipation. Some brands cost more because they are made with a form of iron (bisglycinate) which has been shown to be easier to absorb and less likely to cause constipation.

‘Most people should be OK with a short-term high dose with an inexpensive iron supplement, as instructed by their GP pharmacist or dietitian,’ says Mr Goggins. ‘But if you need a long-term low dose, then bisglycinate is probably worth paying a little more for.’ (This will cost around £15 for three months’ supply, compared to £5.)

FISH OILS CAN BE WORTH THE EXTRA

FISH oils are another example of when it might be worth paying more. Fish oil is a rich source of long-chain fatty acids that form two highly unsaturated fats called EPA and DHA, which have been shown to provide some benefits to a wide range of illnesses including asthma, depression, heart disease and autoimmune conditions such as rheumatoid arthritis.

‘There is strong research to show that, in high doses, fish oils can modify inflammation, which can be beneficial for people with heart disease or inflammatory diseases such as rheumatoid arthritis,’ says Aidan Goggins.

However, the key benefits are shown on levels of EPA and DHA far higher than you would find in a low-cost supplement.

‘If you are healthy, but you don’t eat fish, you might benefit from an inexpensive omega-3 supplement, which provides 300-500mg of EPA/DHA per day,’ says Mr Goggins.

‘But if you have a specific health condition such as rheumatoid arthritis, you might want to take 2g to 4g per day, and that is much more expensive.’

If you want to boost your EPA/DHA, it pays to read the label.

Tesco Omega-3 fish oil, for instance, costs £4.50 for 90 capsules, which deliver 250mg of EPA/DHA. But you get double that (580mg) in Healthspan Superstrength Omega 3 (60 capsules, £7.95).

Professor Rayman says she uses high dose omega-3 which is particularly enriched in EPA for her rheumatoid arthritis.

‘When I put in my order, my husband will often exclaim at the price — but I have been convinced by studies that show the long chain omega-3 fatty acids, particularly EPA, can help inflammation and joint pain,’ she says.

WHAT YOU DON’T WANT IN A PILL

THERE’S been some bad press about the potentially toxic impact of the bulking agents and fillers that supplement manufacturers sometimes use to encase the active ingredients. These excipients also include colourings, binding agents, flow agents (to ensure a smooth mixing process in the machines) and preservatives.

Studies have previously found toxic elements such as mercury, cadmium, lead and arsenic, above recommended levels, absorbed in the body from some of these bulking agents and fillers. For this reason, Professor Kiely advises caution when buying supplements online if they are being sourced from a country with different regulations from our own.

Sarah Coe, a nutrition scientist for the British Nutrition Foundation, advises buying supplements from ‘a reputable company such as a chemist brand or High Street retailer to ensure that the product meets UK standards for safety’.

‘By law, supplements can contain up to 50 per cent more or 20 per cent less of the vitamin amount stated on the label, and 45 per cent more and 20 per cent less mineral. But a landmark Which? report in 2019 found that several supplements didn’t contain what they claimed.’

‘Sometimes paying extra will give you the reassurance of a brand that is certified by the various voluntary bodies that check for compliance, and you should get quality and purity,’ says Aidan Goggins.

‘But most inexpensive supplements are perfectly adequate and there’s little point paying more unless you have specific medical reasons to do so.’

WATCH OUT FOR ‘BIOAVAILABILITY’

OVER the past 20 years, supplement giants have invested significant time and funds in the search for other ways to increase absorption, including reducing the nutrient into tiny nanoparticles and binding them to fat and water molecules to create something the body more readily accepts.

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Much of her research has been on the mineral selenium (an antioxidant that reduces chronic inflammation and enhances

immunity), yet her work has shown that even ‘bioavailable’ selenium can sit in the tissues doing nothing’, she says. It can potentially even cause problems of its own, with some evidence to suggest that excessive levels can increase the risk of death from all causes.

‘Some companies use the term “bioavailability” as a point of difference, but the term is meaningless unless you understand the science of precisely what that product does when it is inside your system,’ she says. ‘We are still learning about the ways these nutrients work.’

She warns that many studies on improved bioavailability are small and often financed by the supplement companies themselves.

IF YOU CAN’T STOMACH TABLETS

SHOULD you pay more for a formulation that’s developed to be ‘more gentle’ on the stomach?

Take vitamin C. Most products contain ascorbic acid and the daily recommended intake is 100mg (available for as little as £1.50 for

SAVVY SHOPPING

IF YOU don’t have gut issues or any of the problems described in the main article, here is Professor Rayman’s quick guide to the vitamins and minerals you can buy cheaply — and when it is worth spending a bit more...

SAVE:

- Vitamin D, Calcium, Zinc
- Multivitamins, Vitamin B12
- Iron, Vitamin C, Selenium
- Iodine

SPEND:

- Omega 3s
- Turmeric

30 tablets, wilko.com). However, many people believe a very high dose (2,000mg or 2g) offers protection against infection, viruses and even cancer, but the risk is that a higher dose can irritate the stomach lining and cause diarrhoea.

‘So some products offer “buffered vitamin C”, where calcium is added to the ascorbic acid to neutralise the acidic effect — expect to pay around £20 for 30 tablets.’

But this is a largely unnecessary

expense, says Mairead Kiely, a professor of human nutrition at the University of Cork: ‘Our absorption efficiency is high when you’re taking the recommended amount, but it decreases as the dose increases, and most will be excreted in urine.’

Another example is vitamin B12, which comes in different forms (cyanocobalamin, hydroxocobalamin or methylcobalamin). ‘For most people, inexpensive vitamin

PREMIUM BRAND THAT COSTS 22 TIMES MORE

The price of supplements varies: Premium products can contain formulations better absorbed by the body or may be kinder on the gut or contain higher doses (see main article).

VITAMIN C: Cheap: Boots own, 500mg, 90 for £5 (6p per tablet) Premium: Solgar Ester-C

1,000mg, 90 for £25.99 (29p each), Holland & Barrett
VITAMIN D: Cheap: Wilko, 12.5mcg, 90 for £1.50 (2p each), wilko.com Premium: Nutri advanced D3 + Isoflavones, 2,000 iu, 90 for £33 (37p each), nutriadvanced.co.uk
CALCIUM: Cheap: Superdrug Calcium with

D, 60 for £2.49 (4p each) Premium: Vitamin Code Raw Calcium, 60 for £19 (32p each), gardenoflife.co.uk
MULTIVITAMINS: Cheap: Wilko, 60 for £1.50 (2p each), wilko.com Premium: Holland & Barrett Mega Vita-Min Time Release, 60 for £15.99 (27p per tablet)