EVIDENCE: WHAT COUNTS?

The sheer volume of data available when trying to decide what's good and bad for your health is overwhelming. So how do you know what to believe?

words by FRANCESCA BAKER

This is a world with easy access to a huge amount of information. Just about everything you could possibly want to know is available at the touch of a button, from what to eat or how much exercise to do, to the best way to raise a child, where to invest your money or who to vote for.

You want to make informed decisions and you've never had more information at your fingertips. Trouble is, it can actually make life really confusing.

If you've ever been unclear about whether butter is actually good or bad for you, tried to ascertain if the antioxidants in wine outweigh the hangovers, or 'hacked' your sleep to achieve a solid eight hours only to discover that seven hours is, in fact, what you should be aiming for, you're not alone.

A 2014 study in the *Journal of Health Communication: International Perspectives* examined the effects of conflicting media information about fish, coffee, red wine and supplements. The report raised 'concern that exposure to contradictory health information may have adverse effects on cognition and behaviours.' The more information people were exposed to, the higher the level of confusion they reported, which led them to making the wrong decisions. Not to mention that evidence changes all the time, as more scientific discoveries are made. It's difficult to believe that smoking was once deemed 'healthy' and 1950s adverts for cigarettes featured doctors encouraging the public to smoke. In fact, in 1980, there were only seven dietary guidelines which Americans were encouraged to follow; by 2005, that had swelled to more than 40.

It's not about quantity of information – the abundance of evidence can be empowering – but much depends on our ability to scrutinise its quality and how useful it is.

DUBIOUS INFORMATION According to a study conducted by market-research firm Harris Interactive, 98% of people 'distrust the internet'. You still read it, though...

THE RANKING OF EVIDENCE

According to scientists Mark Petticrew and Helen Roberts in a study published in the *BMJ*, there is a 'hierarchy of evidence'. They outline seven different levels of study, ranking them based on effectiveness, process, salience, safety, acceptability, cost effectiveness, appropriateness and satisfaction. At the top – the most rigorous and accurate – are systemic reviews and randomised control trials, followed by cohort studies, observational studies and surveys through to testimonials and case studies.

You see, it's not only the *type* of evidence that matters, but where it comes from.

Dietary guidelines are drawn up by governments who also want to keep food manufacturers in business. Studies aren't cheap to run and are often funded by parties with a vested interest in a positive outcome for their products. The American Diabetes Association, for example, is one of many health groups which get funding from fizzy drink manufacturers – *Time* magazine

> WE WANT CONCLUSIVE ANSWERS, AND FOR SCIENCE TO PROVIDE THEM, BUT THAT ISN'T POSSIBLE WITH DECENT QUALITY RESEARCH

reported last year that between them, Coca Cola and Pepsi gave money to 96 health groups in the US. A study of 206 pieces of research that looked at the 'Relationship between Funding Source and Conclusion among Nutrition-Related Scientific Articles' found those sponsored by a food or drink manufacturer were four to eight times more likely to show positive health effects from consuming those products.

Often health claims or scientific breakthroughs are reported in the media without context. Heidi Gardner, PhD researcher and science communicator, believes 'poor quality science is easily disseminated broadly and good quality science gets minimal coverage because researchers are open about the limitations of the work they've done.' We want conclusive answers, and for science to provide them, but 'that just isn't possible with decent quality research – the best we get is 'yes or no for now'.'

Helen West and Rosie Saunt from the Rooted Project, a scheme they co-founded when they 'became tired of the nutri-b****cks filling our social media feeds' stress the importance of looking at the whole body of evidence, rather than only that which supports your personal belief. They see big problems in the health and wellness industry, where qualifications are not regulated in certain fields, but recognise the public are starting to understand the importance of evidence-based nutrition and are 'demanding credibility from the industry'.

> **TECHNOLOGY OFFERS A CHANCE TO BECOME YOUR OWN EXPERT**

THE SIGNAL OR THE NOISE

Rob Briner is scientific director at The Center for Evidence-Based Management. His advice is to think widely and deeply. 'It is essential to get evidence from a range of different sources... because using information from just one source means it is more likely we will be using information that is either limited or biased, or both. The second thing we need to remember is to judge the quality of the information or evidence we obtain.'

It has never been easier to share your thoughts with the world via the internet. Technology means anyone can have a voice. While there are enormous advantages to this, it's difficult to separate real expertise or verifiable news from opinion and idea – to 'hear the signal through the noise' as Rob puts it. We're also human and tend to believe things because other people do, or experience confirmation bias where we tend to search for information consistent with beliefs we already hold.

Dr Joseph Reddington is director of EqualityTime, a charity using critical thinking to solve social problems. He's also active in London's 'Quantified Self' movement which is based on daily self-tracking and says technology offers a chance to become your own expert. 'Being able to fact check in real time empowers normal people with just enough truth to fight back,' he says.

A yoga teacher specialising in prenatal and baby yoga, Hayley Slatter aims to help individuals find their own sense of wellbeing. Even with experience as a physio, a Masters in neuropsychology and additional qualifications in yoga and pilates, she finds the field overwhelming. The number of yoga teachers demonstrates the versatility of a yoga practice. But when you add endless articles, so-called expert bloggers and what Hayley calls 'Instayogis', showing the benefits of particular poses, classes and even nutrition, it's difficult to know which practice is right for you. 'I believe the common theme through all these yoga types is that a true practice requires a degree of self-awareness,' she says.

Heidi Gardner agrees, 'people tend to tune out of their own bodies in favour of trying to find evidence for what they should or shouldn't be doing.' She has been working with a nutritionist since 'feeling overwhelmed' with all the healthy living 'evidence' she was faced with. 'I was relying on claims I'd seen to tell me what was healthy,' she says. Stopping soaking up all the 'evidence' has made her happier and more relaxed – and probably healthier, too.

So, how do we gain that self-awareness? We might have to accept that there isn't one. We're all human and after we've read widely and deeply, asked critical questions and considered all the evidence, sometimes the only thing to do is take a deep breath and jump in to what feels right for you. B

FIND YOUR BALANCE

HOW YOU CAN APPLY EVIDENCE TO YOUR OWN LIFE

Search for the best available evidence. As well as a degree of quantity, you need quality. Who wrote it? What do they have to gain? What is their experience?

Play the 'why' game and approach what you read and hear with a dose of healthy scepticism. 'Asking "why?" repeatedly and focusing on making better-informed and not perfect decisions' is important says Rob Briner, The Center for Evidence-Based Management.

IS IT IMPORTANT?

Use Pettigrew and Roberts' idea of salience, or how important something is. Basically, does what you're investigating even matter? And why? Do we actually care about taking 10,000 steps a day, or whether we have 35 or 40 grams of protein? In the grand scheme of our lives, how much does it really matter?

THREE WISE THOUGHTS

The Rooted Project has three questions to ask:

'Is the claim based on a person's story, or a scientific study?' If it's an anecdote, you can be pretty certain it's not a fact and probably not applicable to the whole population.

'Is the newspaper headline referring to one study or multiple?' Single studies do not change public health advice.

'Is it a human or animal study?' You are not a mouse, rat or monkey. You can't extrapolate data from animals to humans.

LISTEN TO YOUR HEART

Remember that intuition is itself a form of evidence. If your gut is telling you something, then you should listen to it. The more practiced we become in doing this, the more we will learn to trust our own instincts and develop self-awareness.