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The link between gut health and happiness

Research is increasingly suggesting a connection between the mind and the gut – and it's all to do with the trillions of bacteria found there. So could taking better care of the microbiome improve your mental health?

One in four of us will experience a mental health problem at some point in our lives. But even though conditions which affect our mood are relatively commonplace, we still don't really know what causes them. It's likely due to a complicated combination of factors for most people. But recently scientists have identified a surprising risk factor for diseases like [depression](#) and [anxiety](#): poor gut health.

You've probably heard of the [microbiome](#). Our guts contain trillions of bacteria which we now know may influence a range of other organs in the body. As dietician Dr Megan Rossi (better known as [The Gut Health Doctor](#)) points out, it's perhaps not so surprising that there may be a connection between the stomach and brain. We're all familiar with the term 'gut feeling'.

"If you're nervous, you often get that funny feeling ['butterflies'] in your tummy. You might even get some gut symptoms. And historically, if you think of how we describe emotions, we use metaphors for the gut such as 'this gives me the poops' or 'I can't stomach someone's behaviour'," says Rossi, who is also a research fellow at Kings College London.

Only recently has research suggested a two-way communication between our gut bacteria and our minds though. This is often referred to as the '[gut-brain axis](#)'.

How do our guts and brains communicate?

But how can something in our stomachs possibly influence our minds? This is something [Dr Katerina Johnson](#) from the University of Oxford is looking into.

She says: "Understandably, people do find it a bit bizarre that all these trillions of bacteria living in your gut can potentially affect your brain. We're still trying to figure out how they do it."

One possible explanation is the vagus nerve which goes from the gut to the brain. Johnson explains that [research has shown](#) that damage to this nerve (which sends signals in both directions) can be seen in conditions that affect the gut such as [Crohn's disease](#) or [irritable bowel syndrome \(IBS\)](#). But on the other hand, studies have also shown that gut bacteria can affect the brain independently of the vagus nerve, so another mechanism may be at play.

"There's also quite a lot of increasing research pointing towards the role of the immune system. The immune system is increasingly linked to some mental health conditions like depression and [schizophrenia](#)," Johnson continues.

"One intriguing thing is that bacteria in the gut can actually produce chemicals of identical structure to our brain's own neurotransmitters – chemicals like serotonin and dopamine. And it's an imbalance of these neurotransmitters that is associated with some mental health conditions."

Scientists are trying to work out whether the ability of bacteria to produce these chemicals is something that can really affect the brain.

Can you improve your microbiome for better mental health?

While the science is intriguing, can we use what we know already to improve our gut health and our minds? Rossi believes some of the existing evidence points to yes. She cites a [study](#) from 2017 which randomised people with moderate to severe depression to receive either a gut-friendly diet or counselling sessions. [The Mediterranean diet](#) was chosen because of its high fibre content.

"It showed that if you nourish the gut bacteria through the right diet, you can improve your mental health."

After 12 weeks, 32% in the diet group had a significant improvement in their depression scores (which would have classified them as no longer clinically depressed). While the counselling group had only improved by 8% on average.

But Rossi stresses an important caveat: everyone who was taking them remained on their [antidepressants](#) in this study. It would be a very bad idea to come off medication without the help of a qualified medical professional in a quest to improve your microbiome. But a diet that supports good gut bacteria could be a helpful adjunct to more traditional mental health treatments.

"It's not saying that everyone who has depression will get off the medication and be fine if they improve their gut bacteria. But there clearly is a significant population that could be managing that depression, if not preventing it, by also nourishing their gut health," says Rossi.

What about probiotics?

It's interesting that a diet prescribed to improve gut health in this piece of research was one we've known about for centuries: the Mediterranean diet. There are no references to probiotic foods that have become more popular in Western countries, such as kombucha and kefir.

While Rossi admits the Mediterranean food plan would likely have also included some live yoghurt which does contain probiotics, it's the increased [fibre](#) content that is a really simple way of feeding our gut bacteria. A diet change she recommends to most people is simply to eat as many [plant-based](#) foods as possible. But does that mean we don't need to turn to [probiotic](#) supplements to try to improve our mental health?

"A probiotic is not going to give you good gut health on its own. What we need to appreciate is these bacteria are solely reliant on what we eat to grow. The biggest bang for your buck is about feeding yourself the right nutrition that not only on a daily basis feeds your human gut, but also the bacteria there. Having just one type of bacteria through a capsule, or even if it's got 20 types, is likely not going to make a big difference in your gut bacteria," reveals Rossi.

Johnson agrees and admits she doesn't take probiotics herself. While there's some evidence they can help people with IBS, she doesn't think the general population would see a benefit from them. And the research is currently inconclusive with regards to these supplements and depression. But hopefully, we'll know more in a few years.

"Anxiety and depression are so multifactorial. The gut, even if it plays a role, will only have a relatively small part. But if you can understand the potential of gut bacteria, you might be able to help in a more holistic way. I think we're moving towards not just treating the mind [in these conditions] but the whole body," she concludes.

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