

New research into ADHD is changing our understanding of how it affects people and, most tellingly, whom it affects. JOHN McCRONE reports.

Too slow, too fast. Well, what is normal anyway? What decides whether these brain differences are a defect of an individual, a condition to be treated medically, or of the societies within which they are supposed to fit?



On the case: Clinical psychologist Julia Rucklidge is studying the use of micronutrient supplement Truehope's Empower-Plus for the treatment of ADHD.

OUT of synch

Day-dreamy, inattentive, unmotivated, disorganised? You could have sluggish cognitive tempo disorder (SCT). It is not that you are simply slack and lazy. It is a problem with your brain. A problem with which you were born. And just to confuse you, it is a newly recognised variant of hyperactivity, or attention deficit hyperactivity disorder (ADHD).

The excellent news is that psychiatrists are considering adding SCT to the next update of the bible of their trade, the Diagnostic Statistical Manual Revised. So how long before the drugs companies can legitimately peddle amphetamines to give sluggish minds everywhere a healthy kickstart?

Too slow, too fast. Well, what is normal anyway? What decides whether these brain differences are a defect of an individual, a condition to be treated medically, or of the societies within which they are supposed to fit? A big question has been growing bigger because, as SCT shows, the definition of ADHD has been spreading. Hyperactivity was once thought to be a condition affecting only young boys. The "busy" eight to 12 year olds who could not control themselves and were liable to do stupid things such as act up in class or jump off the garage roof.

The worst cases could be calmed using the stimulant drug, methylphenidate – better known by its tradenames such as Ritalin, Rubifen and Concerta. Or put them on a special diet, take them off fizzy drinks and additives, said some. It was a phase, so give them time and they would grow out of it. However, over the past decade there has

been another revolution in the research, say psychologists such as Canterbury University associate professor Julia Rucklidge. It has been proven that girls may be equally prone to ADHD, though it shows up somewhat differently in them than as straight-out hyper behaviour.

Even more surprisingly – although perhaps not if you felt it was a fact about a person's brain-processing style – in two-thirds of cases ADHD is a condition that does not just disappear with age. All that happens is the ADHD becomes encrusted with other issues, the life problems it causes such as substance abuse, anxiety, and relationship break-ups, so that clinicians find it harder to recognise the underlying complaint.

So what is society to do if there is more ADHD about? Dish out strong pills to grown-ups too?

Marceline Borren, co-ordinator for the ADHD Association, says if a person has an illness that comes upon them such as depression, then of course we would automatically think in terms of finding a cure. Yet what if a person is simply a square peg that society wants to see banded into one of its round holes?

John is 45 and lives with his wife, a teacher, and first young child in a small North Canterbury town. John found out he has ADHD only a couple of months ago. "Suddenly it all fell into place," he says. "Looking back over my life, it made sense. I said: 'Of course...'"

John had a tough childhood because his mother had bipolar depressive illness. But he

was also a bright boy with bags of potential who somehow always contrived to fail. In class, John admits he was the joker: "I had a well-developed sense of humour – not always appreciated by everyone else."

He was able enough academically to be considered for head boy, and on the sporting field to be captain of the First XV. Yet he spoilt both opportunities because of his boisterous, impulsive streak. "I was restless so I'd make fun and drag others into it. I could do well in some areas, but people didn't understand what I was like on the other side. I would have been seen as the gregarious type, and extroverted. In fact I felt painfully shy."

The pattern continued when John left school mid-way through his final year to join the army. He says the army offered him both escape and a structure. With his IQ, John was fast-tracked for promotion. Yet over the eight years there he kept getting busted down to private for erratic escapades such as scaling a taxi in Singapore.

"We had been drinking, me and my two mates, and we wanted to get into town. The driver got out to do something, so I jumped in and drove off. "It was always like that. I would have an idea and – bang – I would act on it. Sometimes it worked out well and a lot of times it didn't."

John says the next 20 years were a roller-coaster. A lot of drinking and also too much pot – a way he discovered to self-medicate, to take the edge off a too-busy brain.

John did manage to settle with a steady partner. He also worked his way up to a sort of career. From delivering fruit and veg, he became the despatch manager in charge of 10 drivers. Yet he found the job hugely stressful because it was next to impossible for his mind to be focused and disciplined. "At home, I could never organise paying the bills, or keep up a basic routine on watering the garden. Not a chance."

With a struggle, John handled the detail of his work, however he was continually making mistakes. "I got by largely through my quick wit and winning smile."

So, outwardly, John's behaviour was forever puzzling. A person with so much going for him, if only he would knuckle down, make the effort.

Inwardly, John was puzzled, too. "I just put it down to being me."

But recently, seeing the symptoms of ADHD described and feeling they applied to him, he went along to Rucklidge for some tests and had the diagnosis confirmed.

What now? Does he want medicine, does he want treatment? John says he is dubious about the drugs having seen how they work. He was once employed as a helper at a residential care home where many of the boys were doped with methylphenidate for their ADHD. "They could go into a vegetative state. It seemed a control method really."

He agrees his life with ADHD has been far from easy. Yet even if he could be made more normal, would he want to risk being turned into someone he might not know?

Researchers like Rucklidge are struggling for the same answers. How should ADHD be understood and then does it need fixing?

In Rucklidge's case, this has led her into some dangerous territory academically. She is testing the kind of woo-woo "cure" that could be career-suicide – claims that a simple multi-vitamin and minerals pill could possibly correct the brain's balance.

More of that in a minute. First, what is ADHD all about really? Are we even dealing with one specific malfunction of the brain,

or are there many different reasons why the same general behaviours can emerge? Rucklidge says there are three classic behaviours by which ADHD is recognised – impulsiveness, inattention and hyperactivity.

The impulsiveness shows as a lack of forethought and difficulty in restraint, just like the way John would drive off in a taxi for a laugh. Inattention seems to work two ways. Some sufferers are fidgety and too busy to concentrate, others seem dreamy and forgetful. Regardless, it is the inattention that leads to the disorganisation that can be so handicapping for adult sufferers, says Rucklidge. And they will go to all sorts of lengths to cope.

"One of the most telling questions I can ask when first meeting a person is: 'How did you remember to get here?'" she says. Rucklidge recently asked this of a young male student. "He replied: 'Well, I told my mother about the appointment and asked her to text me on the day. I also put it in my email system to have a note in there to make sure I remembered. Then I also told my friends to text me to remind me not to forget.'"

Rucklidge says such tales suggests an organic problem with memory. But because inattention is less "in your face" than ADHD's other symptoms, it is an aspect that is often overlooked. The third feature – hyperactivity – make

an ADHD child stick out like a sore thumb in the classroom or mall. And yet, says Rucklidge, this is far from a universal symptom. Many just show the inattentive traits. Which is why some psychiatrists are now talking about creating the new syndrome of sluggish cognitive tempo as a diagnosis for those who instead appear hypo-active – under-aroused, overly-passive and "in a fog".

But Rucklidge is more a lumpner than a splitter. She feels that underneath all the variety there is a common problem that boils down to the way the brain handles attention and short-term memory.

Paying attention sounds straightforward, but is really quite a complex mental skill, she says. Every moment we are surrounded by possible points of focus and distraction. We are continually juggling urges, making predictions, ignoring irrelevantities and keeping check on the execution of plans. But what if intentions won't stay in the head or little things keep catching our eye? ADHD sufferers complain that as soon as they walk out of a room to get something, 10 minutes later they will realise they immediately forgot and got involved in something else, then something else again.

So to stay focused and task-oriented is a real mental effort. And naturally, says Rucklidge, something you find tiring, a battle, you will want to avoid. Look at it the other way round. Doesn't modern society make strange demands on us? Sit still in one chair, at one desk, at one terminal, for most of your day in a

classroom or office. And do nothing but chores that may be, well, intrinsically boring. It could be just genetic luck if your brain finds it can do this without strain. Anyway, says Rucklidge, ADHD is now understood as an issue to do with the brain's handling of attention rather than an emotional or behavioural disorder.

"Hyperactivity was originally defined by how you would see it in eight to 12-year-old boys, which is why it used to be called hyperkinetic disorder of childhood. Then people began to see the inattentive as part of the disorder. And now people are realising that while the hyperactivity decreases with age, the inattention doesn't."

John says it is a relief, if nothing else, to have confirmation that your troubles can be put down to a widely shared fact about the brain. Just in Christchurch, say the statistics, there must be some 11,000 adults who would be classified as having ADHD. Which is another fact about the condition that ought to make anyone stop to think.

While people are no longer jumping out of their chairs and running round or climbing trees, they still describe that inner restlessness. It is a myth that ADHD just switches off at 18. If this is the shape of the disorder, then what about the treatments? Rucklidge says methylphenidate and other stimulant drugs seem to work by boosting levels of the brain neurotransmitter dopamine, vital to strong-functioning attention and frontal lobe memory circuits. Slow-release formulations raise these areas to working speed.

However, the drugs do not change the underlying problem. They can also have side effects, like stunting growth. And in adults they often become less effective. Then there is the concern over diversion, the fact that methylphenidate is a cocaine-like stimulant with a black market. "Ritalin sells for something like \$20 a pill. People grind it up and inject it," Rucklidge says. Which could well be another reason why health authorities have been slow to acknowledge ADHD as also an adult condition.

Apart from drugs, the other prong of treatment is training in cognitive strategies – understanding the nature of the problem so as to learn how to live with it. Yet Rucklidge says such therapy is expensive and again is not itself a cure.

Which brings us to a fat plastic bottle of micronutrient capsules sitting by her elbow, and a highly controversial trial in progress. It started with a Canadian Mormon whose wife committed suicide because of her bipolar illness and he feared his children with the condition might do the same. He prayed to God and met an animal nutritionist. The nutritionist told him farmers gave a broad-based feed supplement to stressed pigs, so between them they concocted a human version consisting of 16 minerals, 14 vitamins, three amino acids and three antioxidants.

Now marketed under the label Truehope as Empower-Plus, it is being sold as a general tonic for a variety of mental illnesses. And not surprisingly has been attacked as pure quackery.

Rucklidge, originally Canadian, was brought into it by her former PhD supervisor. Despite the risk to her reputation, she felt the alternative approach – these "pig pills" – at least deserved a scientific trial.

A first pilot study last year was promising, although the test was open label so those taking part knew what they were getting. It could have been that they talked themselves into feeling better. Now a second blind trial is under way, with half getting a dummy pill. John is a subject on the second trial. He doesn't know if the pill is working yet, but he also doesn't know if he is taking the real one or the dummy. Psychiatrists want to debate the medical boundaries of the condition – does it need to be broadened, lightened, whatever? Sociologists will argue about how much ADHD is simply part of natural human variation and it is the modern world of school and work which is creating all these apparent square pegs.

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Traditional treatment: Rubifen is one of the main brand pills used in treatment of ADHD in New Zealand. Photo: FAIRFAX

A different outlook on life

At least one ADHD sufferer is already convinced of the benefits of Julia Rucklidge's controversial micronutrient capsules, marketed under the name Empower-Plus. Tim Webb, a 32-year-old Christchurch builder, was another bright spark who people felt had managed to fritter away his many advantages.

Ever the class clown, he was also deeply anxious because he found his own outbursts embarrassing. As an adult, he turned to marijuana to self-medicate even though he did not like its other effects.

His mental disorganisation made the idea of an education or running his own business impossible. "I just felt immense frustration with myself," Webb says. He went on Rucklidge's first trial and found his mind changed. "It's huge. I've never in my life felt this calm, this able to follow things through."

He is such a believer that he has continued paying for the pills, at \$240 a month, even now the trial is over. "I can afford it because I'm able to work in fulltime employment now. I can hope to get a job as a fireman – I was never stable enough before."

Rucklidge cautions it is early days and Webb's reaction could be atypical. Just as food additives seem to be the key for a small percentage of ADHD cases, so micronutrients may only help a few. But there is encouragement there at least.



Positive change: Tim Webb says micronutrients have made a huge difference to his lifestyle, allowing him to better interact with his family, including Tanchoz, 9, and Darius, 14, above. Photo: IAIN MCGREGOR

their chairs and running round or climbing trees, they still describe that inner restlessness. It is a myth that ADHD just switches off at 18. If this is the shape of the disorder, then what about the treatments?

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