

Does a brain chemical imbalance cause depression? Many find it hard to swallow

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Jacqueline Gwynne has taken antidepressants for almost two decades. *Photo: Simon Schluter*

IT WAS the theory that coaxed the "black dog" out of hiding.

When depression was found to be a chemical imbalance in the brain it helped reduce the stigma around a long misunderstood illness.

Just as diabetics lacked insulin, depressives were thought to have a deficiency of the "happy chemical" serotonin that helps regulate mood.

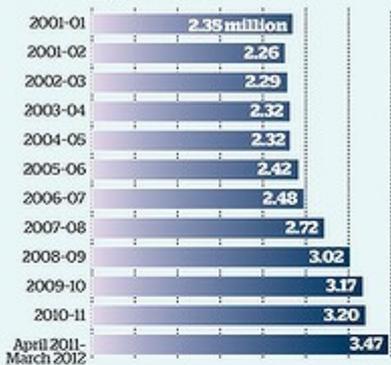
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It led to a global explosion of antidepressant use, premised on the notion that popping a pill could "correct" a malfunctioning mind.

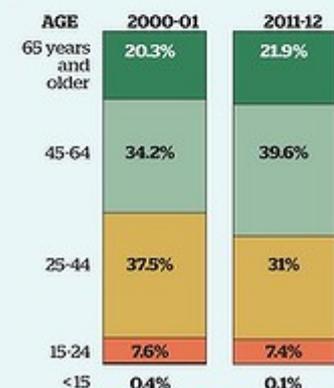
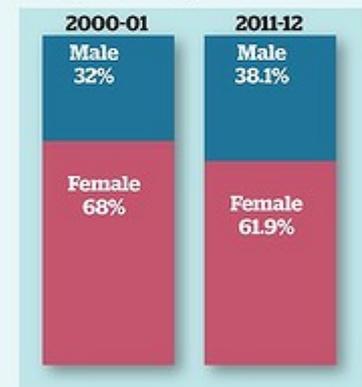
But more than 60 years after the chemical imbalance theory was first advanced, researchers now believe psychiatry got it wrong. They say not only is there growing evidence that the case for a

DEALING WITH THE BLACK DOG

Estimated number of antidepressant prescriptions by GPs at consultations covered by Medicare



Age and sex of those prescribed antidepressants by GPs



SOURCE: REACH PROGRAM, FAMILY MEDICINE RESEARCH CENTRE, UNIVERSITY OF SYDNEY

biological cause of depression has been grossly overstated, the drugs invented to fix it may not actually work for millions of people.

"The chemical imbalance explanation is an oversimplification of a very complex picture," says Professor Michael Baigent, a psychiatrist and board director of national depression agency beyondblue, which no longer mentions the imbalance theory in its educational information. "There's a tendency to want to dumb it down and say people are depressed and all depression needs an antidepressant, but when you look at the research you see that their effect is really greatest with the more severe forms of depression. With the less severe forms they're no better than a placebo." Yet use of the drugs has never been more widespread. Unpublished figures from the Family Medicine Research Centre at the University of Sydney show GP prescriptions have jumped by 48 per cent from 2.3 million in 2000-2001 to 3.5 million in 2011-2012.

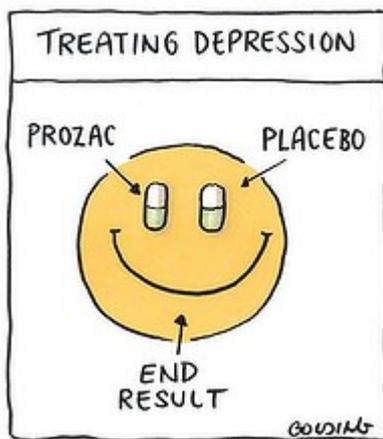


Illustration: Matt Golding

And although the drugs are not recommended as first-line treatment, 63 per cent of patients who have their condition managed by a GP are prescribed antidepressants.

The trend is partly due to population growth and more people seeking help, but many within the mental health field fear those with mild to moderate symptoms - often caused by normal human suffering - are taking medication unnecessarily. At a time when the British government has raised investment in talking therapies following a National Health Service review which found antidepressants were ineffective for treating mild to moderate depression, Medicare-funded psychological therapy here was scaled back in last year's budget.

But for many Australians, placebo effect or not, antidepressants have improved their mental health and given them a better quality of life.

Indeed, Professor Baigent says that for those with severe and untreated depression, not taking antidepressants could be life-threatening. The problem lies in working out who will respond to drugs and who will not. However, Jon Jureidini, a professor of psychiatry at the University of Adelaide and spokesman for Healthy Skepticism Inc - an organisation devoted to countering misleading drug promotion - believes that the "vast majority" of people taking antidepressants should not be using them and argues there is a "complete lack of evidence" that a chemical imbalance in the brain causes depression. "The explanation might be grief, it might be a response to a physical illness, it might be because the person's a victim of domestic violence, or sometimes it just comes out of the blue and there isn't an explanation to be found for it," Professor Jureidini says.

He argues that depression without an obvious cause should be classified as "unexplained depression" and that any link to a chemical deficiency is a myth perpetrated by the pharmaceutical industry.

Drug companies in Australia are banned from advertising directly to consumers, but in the United States more than \$1.5 billion a year is spent promoting antidepressants. Marketing has focused heavily on the chemical imbalance theory since it was first posited in the early 1950s after tubercular patients in a New York hospital were given a new drug, iproniazid, and experienced "awakenings", completely transforming their depressed mood.

The thinking was that the drug had helped correct malfunctioning neurotransmitters in the brain by strengthening the serotonin signal between nerve cells. It gave psychiatry, until then a largely psychoanalysis-based "talking therapy", newfound legitimacy, elevating it to a discipline that could promise tangible medical treatment for ills of the mind.

The chemical imbalance theory really took hold in 1987, when Prozac - one of the first of a new generation of antidepressants known as selective serotonin reuptake inhibitors (SSRIs) - went on sale. It became the most widely prescribed antidepressant in history. By 2007, 54 million people worldwide were taking it.

Now, researchers increasingly believe that while there are some forms of depression that have a chemical cause which can be alleviated by antidepressants, there are many more caused by other factors including hormonal changes, vitamin D deficiency, nutritional problems, weight gain, emotional stresses and immune system impairments. "We really need to open up the concept of depression and realise it is big and there are a number of different subtypes which require a range of treatment options which can go all the way from correcting abnormal sleeping patterns, to working through various life stresses that can create low mood, or increasing exercise and using talking therapies. Depression doesn't necessarily need to be treated with antidepressants," says Professor Jayashri Kulkarni, director of Monash Alfred Psychiatry Centre.

The chemical imbalance hypothesis started to lose support in 1997, when Harvard Medical School psychologist Irving Kirsch analysed 38 antidepressant trials and found that 75 per cent of the drugs' effects could be obtained by taking a placebo. In 2010, researchers revisited Kirsch's work, using six more recent trials, and vindicated his findings.

However, given most antidepressant trials exclude severely depressed patients, some say these studies were like testing antibiotics for pneumonia on people who had the common cold.

Michael Berk, professor of psychiatry at Deakin University, says the Harvard findings do not mean the drugs will be ineffective for all people suffering from depression and cautions people against stopping medication without seeking the advice of a doctor.

"If we're lumping together people who have biological recurrent unipolar depression with people who are depressed in the context of alcohol abuse together with people who are depressed in the context of being in an abusive marriage, we run into all kinds of problems. Antidepressants don't fix unhappy people who are being abused and yet people are now arguing that antidepressants are useless because it doesn't fix all forms of unhappiness," he says.

SSRIs remain the most commonly prescribed antidepressants in Australia. Yet the number of GP consultations for depression has risen by 20 per cent between 2000-01 and 2011-12. If these medications are such wonder drugs why are we not any happier?

For Jacqueline Gwynne from Heidelberg, it's taken 20 years to pinpoint the root cause of her depression. Through counselling, self-help books and meditation she now believes it stems from self-esteem issues sparked by childhood bullying.

But the 39-year-old will continue to use the antidepressants she's been taking daily for almost two decades. She believes that without them her mental health issues would be unmanageable.

"We don't think twice about popping a pill for a headache and people self-medicate with drugs or alcohol. I don't think there's anything wrong with taking a 20 milligram pill every day, it's better than having to live with anxiety and depression," Ms Gwynne said.

Brendan Shaw, chief executive of Medicines Australia, the pharmaceutical industry's peak body, said antidepressants had improved countless patients' lives and helped reduce suicide rates, adding that all prescription drugs must meet strict safety and efficacy tests before gaining approval.

"A company can't simply make up a disease and claim a medicine will treat it without convincing evidence that the medicine makes a difference," Dr Shaw said. "The role of the industry is to provide a range of possible treatment options. It's then up to doctors to work with their patients to find the best treatment option, which may include a prescription medicine."

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