

Depression and the drug dilemma

There are serious gaps in medical knowledge because of big capital and self-interest

COMMENT

Andrew Verridjt

Depression is not sadness. It is a caustic mixture of physiological symptoms, negative thought patterns and maladaptive behaviours. Telling someone with depression to "get over it" is like telling someone with epilepsy to "walk it off".

For the estimated 100-million people who battle with the disorder worldwide, antidepressant medication can be a life-saver. But they do not work for everyone and there is a growing body of evidence that suggests that antidepressants may not be all they are cracked up to be. But, despite this, antidepressants largely remain the first, last and only response to depression and when someone with the disorder says that their drugs are not working, the typical response is simply to try a different drug.

A paper published in 2010 by researchers from the University of Pennsylvania looked at many studies of different types of antidepressants and found that, although the drugs did somewhat alleviate major depression, those patients suffering from mild and moderate depression experienced almost no benefit.

Anomalous results are common in science, but the studies the Pennsylvania researchers examined were all Food and Drug Administration-approved, placebo-controlled trials — close to the gold standard of research. The paper caused a furore in psychology and psychiatry, but when one looks into this issue one finds there have been many similar studies going back as far as the early 1990s that have all come to the same conclusion: for a large percentage of people with depression, antidepressants are no cure and often barely help at all.

But the problem cannot be summed up by a blanket statement such as "they don't work"; the issue requires more nuance than that. Suffice it to say that, if it appears as if the advantages of the drugs have been overstated, the balance



Drugs are being used to treat depression but they do not necessarily help. Photo: Hannibal Hanschke/Reuters

between benefits and side effects has been skewed. But the real problem is that this is just a symptom of a larger issue — the malfunctioning way in which medical research is conducted and published.

The problem of evidence

Science is not about evidence; it is about the weight of evidence. Even the most robust, most rigorous studies are influenced by chance and coincidence. For example, if a depression study's participants have eaten a diet rich in omega-6 fatty acids (which might worsen depressive symptoms), the study's findings would be quite different than if they had consumed a lot of omega-3s (which may do the opposite). Some people feel lower in the winter when it is dark and cold. Others feel worst in the spring when their allergies flare up. One study, in isolation, does not actually prove anything; evidence must first be critiqued, explored and replicated until it starts to build its own momentum.

So how can we know once evidence has started to build up? Well, scientists are nothing if not inventive and a solution already exists: the systematic review. In a systematic review, every piece of research ever conducted on a particular issue is looked at. From it an opinion can be compiled that represents the very best that science has to offer. But although this is a great step forward, it does not solve the problem because

there are often important parts of the research data that are not made available to academics, or indeed anyone.

Let us pretend that a pharmaceutical company has just created a new drug to treat, say, arthritis. With any drug there are many ways for it to be used and many population groups for it to be used on. Does it work better on young people or the elderly? Does it work best with arthritis caused by injury or other kinds? Should it be used in large doses or small? Do higher doses have negative side effects? These serious questions all require a different study or, more likely, many studies to answer.

So when the results of these studies start trickling in and some of them have produced favourable results and others have not, the question inevitably arises: Should all the studies be published, or just the favourable ones? The answer is obvious and poses serious consequences for the health of us all. Many investigations into this issue have found that pharmaceutical companies often refuse to release findings that threaten their products and, at times, actively hide them from view with red tape, legal manoeuvring or non-disclosure agreements.

But, before everyone rushes out to buy a homeopathic first-aid kit, I should mention that many alternative health researchers have been caught doing exactly the same thing, just on a smaller scale. Likewise,

one cannot place all the blame on big pharma because the scientific journals, which are the world's main source of medical research, have their own problem — they prefer not to publish negative results.

Who wants to read a study in which nothing much happened? If given the choice between an article about a treatment that did work and one that did not, most of us would choose the former. But, for a medical practitioner, knowing that a certain drug does not work is just as important as knowing that another one does.

These two factors — suppression of negative findings and publication bias — work together to create a situation in which systematic reviews end up looking at all of the good news and none of the bad. So many drugs that are on the market today are there on the basis of biased evidence. When new drugs are created things only get worse, because to enter the market they need merely to prove that they are as good as the drugs that are already being prescribed — the ones whose popularity is based on the biased evidence.

The broader perspective

In addition to studies being biased or going unpublished, there is another problem — studies that are never done in the first place.

If we take a slightly wider look at depression, the issue of nutrition wobbles into focus. There is some evidence to suggest that dietary sup-

plements such as vitamin C, zinc and omega-3 fatty acids can help to reduce the symptoms of depression. But one of the reasons why the evidence is far from conclusive is that pharmaceutical companies have absolutely no motivation to research them because there is no money in it.

Something that exists in the natural world cannot be patented and, even if an exclusive patent on vitamin C as a treatment for depression was issued, no one can stop people from just eating more oranges.

Academic researchers, who are motivated by knowledge itself, do investigate these issues. But their lack of funding, relative to that of the pharmaceutical companies, means that their studies tend to be smaller and less numerous. So, when the research is looked at as a whole, their data tends to get crowded out.

We can look wider still at the interpersonal and social aspects of depression. It is an established fact that individuals who supplement their medication with therapy or counselling do far better than those who rely on drugs alone. But this timid voice in support of therapy can scarcely be heard above the fanfare in support of drug treatments. Psychology does not have a marketing budget. Psychiatry, although it did not ask for one, has a budget in the billions.

The problems I have described above are important and serious, but they do not weaken the case for science itself. The suppression of findings, publication bias, the lack of unprofitable research and the narrow focus of attention on medication are not flaws in science; they are a lack of science.

The skewing of our collective perspective on depression is not scientific and it is only through relentless investigation by real scientists that we know about these issues at all. And a final question remains: If these shortcomings are apparent in the research about depression, are there similar failings in the research on other psychological problems, or health concerns in general? Robust, exhaustive, independent science will find the answer. Nothing else can.

Meanwhile, get more exercise, eat less junk food and love your fruits and vegetables, because science does not have all the answers. Not yet.

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