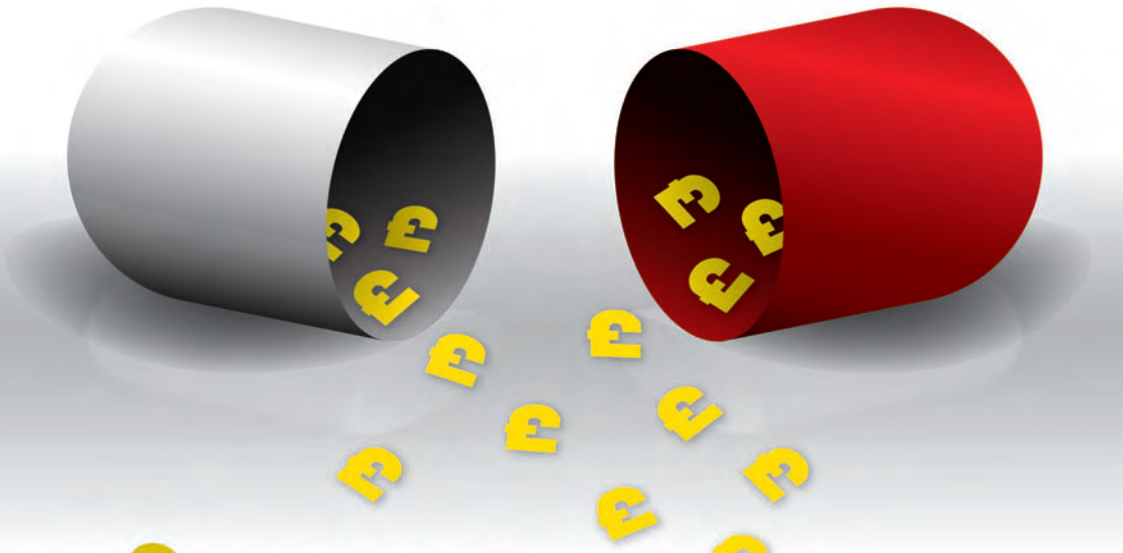

DEBUNKING THE MYTH OF THE CHEMICAL IMBALANCE

Joanna Moncrieff is a senior lecturer at University College London and a practising consultant psychiatrist. She co-founded the Critical Psychiatry Network, a group of psychiatrists who oppose the dominance of biological models of mental disorder and increases in coercion of psychiatric service users. Joanna's book, "The Myth of the Chemical Cure" is due out later this year.

The idea that we suffer from a chemical imbalance is currently being promoted by all sorts of organisations, including drug companies, professional bodies, government institutions and non statutory organisations. We are all being persuaded that our brains may not be as "balanced" as they should be. We are told that we are defective in some way and of course that we need drugs to put us right.

The message is being widely absorbed and more and more people are coming to view their problems as the consequences of a brain disorder. Recent figures from the United States showed that 11% of women and almost 5% of men in community settings were taking an antidepressant drug[1]. Use of new antipsychotic drugs, drugs classified as "mood stabilisers" and stimulants is also rising dramatically in both adults and children.

So are people right to accept the notion that they have a biochemical defect that can be normalised by taking a certain sort of drug? And if, as I am going to suggest, there is little evidence of a chemical imbalance in any psychiatric disorder or situation of personal distress, why is it that the idea has become so widely accepted?

Despite popular perceptions, even the experts admit that there is no evidence that depression is caused by an abnormality of the chemical called serotonin[2]. We can't measure serotonin directly, but studies of indirect measures do not point to any consistent pattern in depressed people. Previously depression was thought to be caused by insufficiency of the chemical known as noradrenalin, but evidence for that was also inconsistent. Schizophrenia or psychotic symptoms are often said to be caused by raised levels of the chemical called dopamine. Early research did not detect any dopamine abnormalities that were not due to drugs. Some recent studies using indirect measures suggest that there may be raised dopamine activity in people who are acutely psychotic. However, the results are inconsistent and none of the studies eliminated the influence of all the other factors that increase dopamine activity such as movement, stress, smoking, cold, high levels of arousal or previous medication use. Evidence for biochemical abnormalities in other psychiatric conditions is even weaker.

Therefore, the chemical imbalance idea is not popular because of the strength of the scientific evidence. Instead, I believe it has been promoted because it suits the interests of parties like the pharmaceutical companies. The chemical imbalance model suggests that drugs help correct an underlying defect. In this way the model stresses the benignity of drug treatment and obscures the harm it can do. It allows drug information to focus on speculative mechanisms of action using diagrams of nerve cells and neurotransmitters. The harmful and unpleasant aspects of drug treatment are presented as co-incidental. However, there is no evidence that psychiatric drugs work by rectifying chemical imbalances or any other biological abnormality. Elsewhere, myself and others have suggested that an alternative explanation is that psychiatric drugs work by creating, not correcting, an abnormal brain state[3].

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Like all psychoactive drugs, psychiatric drugs produce a variety of characteristic drug induced experiences such as reduced or increased arousal, mental slowness and emotional flattening. Some drug induced states may be useful to dampen down extreme emotional distress and reduce mental preoccupations. However, according to this view, drugs do not restore a state of normality. They substitute a drug induced state for the original problem.

The chemical imbalance metaphor is a useful adjunct to the marketing of psychiatric drugs. The idea that drugs are a means to remedy a defective state is more respectable and appealing than the idea that they are intoxicants which merely suppress signs of mental distress. Therefore personal, interpersonal and social problems can be rescripted into chemical disorders that require drug treatment. In this way, suffering and distress can be transformed into a source of profit and the political and social explanations of people's difficulties are obscured. For example, overspending has now become a psychiatric disorder known as "compulsive shopping" or "compulsive buying" and clinical trials of drugs are being conducted for this condition in the United States. Instead of examining the cultural factors and economic policies that encourage endless consumption and easy borrowing, people who run into financial difficulties are treated as if they had a biological fault. Similarly, losing your temper or becoming aggressive can now be classified as a disorder called "intermittent explosive disorder" and drug companies have sponsored research which proclaimed the frequency of this condition[4]. Again, instead of investigating why modern society is increasingly violent and why so many people feel frustrated, the problem is located in the individual and drug treatment is suggested as the solution.

Despite its influence, there is growing criticism of the pharmaceutical industry and an increasing recognition that the idea of the chemical imbalance is at least too simplistic. Service users are demanding alternatives to drug treatments and many are keen to learn how to use drugs occasionally for their useful drug induced effects rather than viewing them as a lifelong necessity. There is a greater awareness of the adverse effects drugs produce and a demand for more balanced information about them. In this way the motives behind the notion of the chemical imbalance can start to be exposed.

[1] Stagnitti M. Antidepressant Use in the US Civilian Non-Institutionalised Population, 2002. Statistical Brief #77. Rockville,MD: Medical Expenditure Panel, Agency for Healthcare Research and Quality 2005.

[2] Lacasse JR, Leo J. Serotonin and Depression: A Disconnect between the Advertisements and the Scientific Literature. PLoS Med 2005 Nov 8;2(12):e392.

[3] Moncrieff J, Cohen D. Do antidepressants cure or create abnormal brain states? PLoS Med 2006 Jul;3(7):e240.

[4] Kessler RC, Coccaro EF, Fava M, Jaeger S, Jin R, Walters E. The prevalence and correlates of DSM-IV intermittent explosive disorder in the National Comorbidity Survey Replication. Arch Gen Psychiatry 2006 Jun;63(6):669-78.