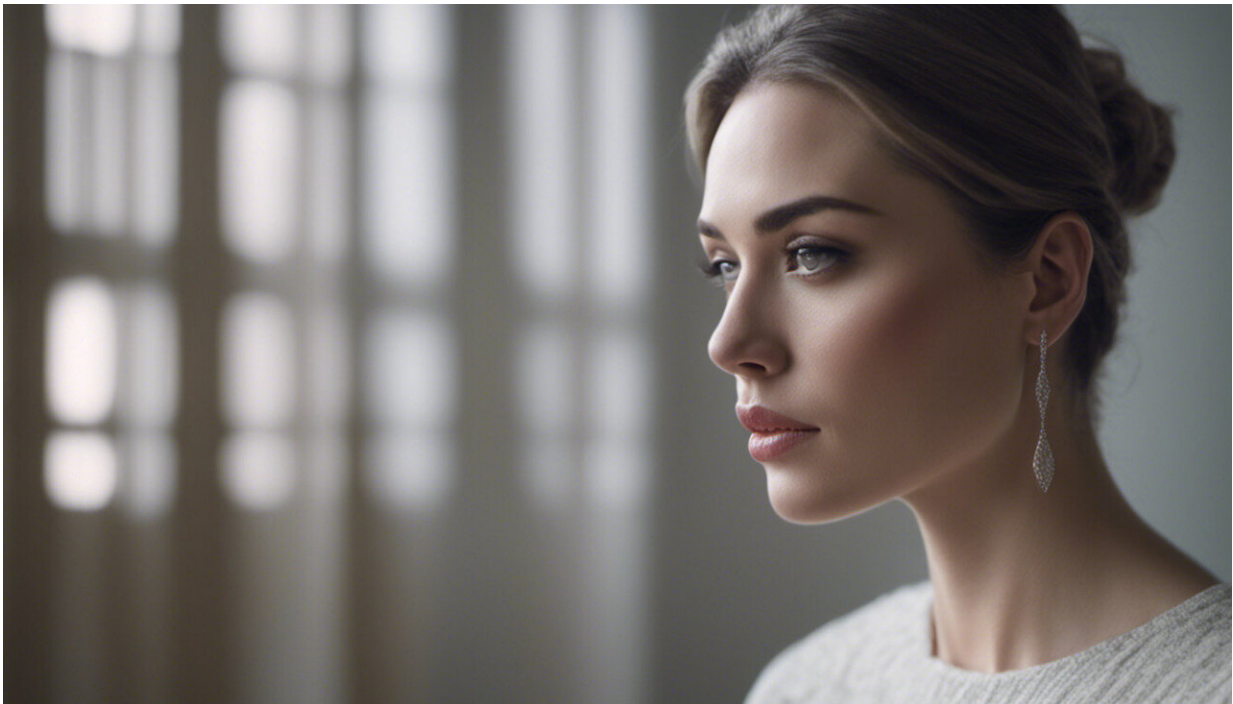


Why some people being treated with anti- psychotics gain weight

June 25 2018, by Joseph Lloyd Davies



Credit: AI-generated image ([disclaimer](#))

Anti-psychotic medication is one of the most common ways of treating people with mental health problems such as schizophrenia. In fact, more than [12.5m people](#) use anti-psychotics in the United States alone. But while these drugs are effective, their use can lead to other health issues and [a lower life expectancy](#) too.

For those taking this kind of medication, preventable physical illnesses such as [heart disease, respiratory disease and type 2 diabetes](#) are the leading causes of death. These illnesses appear to be indirect side effects of the medication, and they are also related to obesity. An overwhelming amount of research has found that being overweight increases the risk of conditions such as heart disease and diabetes.

On average, psychiatric in-patients gain [three to five pounds](#) a month during initial treatment. Not everyone gains weight, but some others gain significantly more than others. Given the preventable illnesses listed above, it is vital to understand why these patients gain weight. The reasons behind the weight gain and the resulting health problems are currently unclear – but it might have something to do with anti-psychotics affect people's memory and can focus their attention on certain things, such as food.

Atypical medication

There are two different types of anti-psychotic drugs, which work in different ways. First generation anti-psychotics, also known as "typical" anti-psychotics, were initially developed in the 1950s. While they were (and still are, in some severe cases of psychosis) effective at treating psychotic symptoms, they come with high risk and substantial side effects. These "extra pyramidal" side-effects usually include issues such as tremors and dystonia ([uncontrollable muscle movements](#)).

Second generation anti-psychotics – also known as "atypical" anti-psychotics – were approved for use in the 1990s, after being shown to produce less of these extra pyramidal side-effects. For this reason, this medication is the preferred choice in modern psychiatry – although it must be noted that some patients still do experience some side effects such as dry mouth, nausea and constipation.

An interesting effect of atypical anti-psychotics is that they somewhat restore the management of attention deficits which are commonly associated with symptoms of schizophrenia (such as an inability to complete specific tasks). But the restoration of these deficits can lead to what is known as "attentional bias" – a tendency to focus on certain information over other information.

The second generation drugs also stimulate particular neurotransmitters and hormones related to appetite control. So it can be suggested that this heightened appetite and increased attention leads patients being treated with atypical anti-psychotic drugs to focus a greater amount of attention towards the pull of certain foods. After all, we know from [research](#) that the degree to which a person pays attention to food cues in their environment is a useful predictor of their predisposition to overeat.

Anti-cholinergics

But why then don't all atypical anti-psychotic users gain excessive amounts of weight? This could be because of the treatment drugs that are often used alongside anti-psychotics, called anti-cholinergic medication. These drugs are commonly used because they reduce the extra pyramidal side effects – particularly tremors and dystonia – but they can negatively affect aspects of brain function too.

Anti-cholinergics work by blocking secretion of a neurotransmitter called acetylcholine, which is responsible for the activation of skeletal muscles that are used for voluntary movements. It is also responsible, in part, for aspects of memory and cognitive functioning. The reason behind this is not fully understood, but [studies](#) have shown that when acetylcholine transmission in the brain is blocked by anti-cholinergics, it affects memory and other cognitive mechanisms.

So, based on this information, we could suggest that patients who do not

receive anti-cholinergic medication alongside anti-psychotics are more likely to gain weight because their attentional bias towards food is not impaired.

It's early days for the research – and we don't have any definitive answers yet. But learning more about how psychological factors such as attentional bias affect weight gain could help decrease the alarming levels of weight gain experienced by anti-psychotic drug users. There is potential for this research to go further too. It could also be used to inform obesity and attentional bias research for the general population, and help to create a tool to check which patients are more vulnerable to weight gain.

This article was originally published on [The Conversation](#). Read the [original article](#).

Provided by The Conversation

Citation: Why some people being treated with anti-psychotics gain weight (2018, June 25) retrieved 25 April 2024 from <https://medicalxpress.com/news/2018-06-people-anti-psychotics-gain-weight.html>

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