Bodyweight Gain Induced by Psychotropic Drugs
Incidence, Mechanisms and Management

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Summary

Some bodyweight gain is common with many of the psychotropic drugs frequently used to treat psychiatric disorders. Although in most instances the gain is not clinically significant, that induced by some drugs, such as lithium and atypical antipsychotics, can be quite large and clinically significant. Individual patients may not wish to continue with medications that increase bodyweight, even by amounts that have no significant effect on health. The true prevalence of bodyweight gain is often difficult to discern because of confounding factors within studies that have assessed this effect, such as the simultaneous use of multiple drugs and the absence of data on starting bodyweight. Risk factors for weight increase have not yet been well characterised, although in general the
potential for drug-induced bodyweight gain is greatest in individuals with a past and/or family history of obesity. Little is currently known about the mechanisms of bodyweight gain that is induced by any drug.

Bodyweight gain has been reported as an adverse effect of many psychotropic medications, including those commonly used in the treatment of depression, mania, schizophrenia, drug-induced psychoses, anxiety disorders and other serious psychiatric disorders. If the bodyweight gain is substantial and persistent, as it often is, patients may incur the health hazards associated with being overweight from any cause[1] or they may be reluctant to continue an otherwise helpful and needed treatment, as is commonly the case with noncompliance due to lithium-induced bodyweight gain.[2]

Although the literature on bodyweight gain associated with psychotropic medication is extensive, there is a high degree of variability in the quality of the descriptive data and a surprising dearth of studies that have investigated mechanisms and clinical management. Therefore, in this review we have been selective in the data that are presented, and have limited the citations, for the most part, to studies with a reasonably adequate design in terms of numbers of patients, inclusion of control or comparison groups and appropriate data analysis. For each drug that is discussed, we consider the same categories of information to enable the reader to easily obtain some sense of what is known. These categories include clinical descriptions, prevalence and magnitude, mechanisms of action and clinical management.

The literature search for this review was performed using the Medline database for the years 1966 through to April 1996 for English language papers only. Keywords used included drug types, drug classes and generic drug names, and terms including ‘weight gain’, ‘weight increase’, ‘bodyweight’, ‘body composition’, ‘metabolism’, ‘metabolic’, ‘food intake’ and ‘appetite’. We reviewed the reference sections of relevant manuscripts for additional citations.

**1. Assessment of Psychotropic Drug–Induced Bodyweight Gain**

**1.1 Prevalence of Bodyweight Gain and Associated Risk Factors**

When considering the risk of bodyweight gain associated with a given drug, familiarity with its overall prevalence and the magnitude of the effect (i.e. weight gain measured in kilograms) is essential. However, to manage individual patients effectively, clinicians also need to be able to identify patients at special risk for bodyweight gain (i.e. to identify risk factors) and to anticipate both the average effect size and the upper end of the range for these patients at increased risk. Risk factors might include a family or prior personal history of an overweight status, large increases or decreases in bodyweight, and a prior history of eating disorders.

The characterisation of the effects of drugs on bodyweight can be confounded by the effects of recovery from illness. For example, in the course of recovery from depression associated with hypophagia and bodyweight loss, an increase in bodyweight can be anticipated merely from the return to premorbid eating patterns. This bodyweight gain will occur independently of the pharmacological effects of antidepressant medications, such as the tricyclic antidepressants (TCAs), which may also cause an increase in bodyweight. Conversely, if the episode of depression is associated with hyperphagia and bodyweight gain, the course of recovery might obscure any pharmacologically induced bodyweight gain.

Many studies of drug-induced bodyweight gain report raw weights. However, bodyweight gain only has clinical meaning in relation to the size of the person. This more relevant data might be expressed as a percentage increase from baseline bodyweight or, even more usefully, as a change...