

## Treatment for Depression and the Risk of Weight Gain

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The consequence of depression to individuals, families, and society is substantial. Depression is not only a psychiatric disease, but is also one that affects physical well-being, having associations with many somatic consequences and the development of incident somatic disease.<sup>1</sup> According to 2 meta-analyses of prospective research, depression is modestly suggested to predict the development of obesity.<sup>2,3</sup> Numerous studies have indicated that both depression and obesity further increase the risk of, for example, hypertension,<sup>4,5</sup> type II diabetes,<sup>5-7</sup> and cardiovascular diseases.<sup>5,8,9</sup> Among depressed patients, the metabolic syndrome mainly arises via obesity-related components (abdominal obesity and dyslipidemia), which are highly prevalent in those with atypical features.<sup>1</sup> On the other hand, the atypical subtype of major depressive episodes has recently been noted to be a strong predictor of obesity over a 5.5-year period.<sup>10</sup>

Antidepressant medications differ in their impact on weight,<sup>11-13</sup> and the effects of some antidepressants appear to differ between short-term versus long-term drug treatment.<sup>11</sup> The use of antidepressant medication has been reported to have a modest impact on weight loss, to be weight neutral, or to have a modest impact on weight gain, with the exception of mirtazapine, amitriptyline, and paroxetine that are associated with a greater weight gain.<sup>11</sup> Drug treatment for major depression usually lasts for several months or years. In a 12-year follow-up study, both major depression and antidepressant medication use in people aged under 65 years was associated with a modest weight gain.<sup>14</sup> Still, in the US household adult population, the prevalence of obesity was 55% in people who had moderate or severe depressive symptoms and were on antidepressant medication.<sup>15</sup> Obese subjects may also have a more chronic course of depression,<sup>16</sup> may receive suboptimal treatment,<sup>17</sup> and have a poorer treatment outcome.<sup>18</sup> However, among 662 patients with major depressive disorder, no differences in response or remission rates were recorded by body mass index (BMI) classes during 12 weeks of antidepressant treatment.<sup>19</sup> While depression and obesity appear to be interconnected in many ways, both disorders are heterogeneous. Thus, study of their mutual associations is challenging.

The literature on weight change in depression is highly inconsistent concerning both epidemiologic and clinical studies. Weight changes in adult patients during depression or treatment for depression have been examined with heterogeneous study samples and methods. It is suggested that future prospective depression-obesity research should take into account race/ethnicity, include research beginning in childhood, involve standardized and validated assessments of depression, apply direct measures of weight and height, and measure proposed mediating variables.<sup>2,3</sup> It is also emphasized that sex, premorbid weight, loss of appetite, and the severity of depression must be taken into account in studies of antidepressants.<sup>11</sup> Furthermore, recommendations for definite depressive subtypes, such as melancholic and atypical subtypes, because of their homogeneity will further define research into associations between depression and biological correlates.<sup>1</sup>

Kloiber et al<sup>20</sup> investigated clinical risk factors for short-term weight gain from 2 independent large observational psychopharmacologic treatment studies for major depression. They noted that a lower BMI, the weight-gaining side effects of medication, the severity of depression, and psychotic symptoms were associated with a higher risk of weight gain during acute psychopharmacologic treatment. Furthermore, they presented the first composite clinical risk score for acute weight gain in major depression.

There is a need for clinical and practical monitoring strategies to avoid weight gain in patients and subsequent overweight/obesity in depression treatment settings. Although the assessment of physical comorbidity in the course of depression is unfamiliar to psychiatrists, risk factors for weight gain need to be taken into account both at the beginning of each first treatment for depression and during the course of each depression treatment. However, there are currently no rapid means to distinguish individual patients who are at risk of weight gain during treatment for depression. Diagnosis of the specific subtype of depression is one key task in assessing the weight-gain risk.

Thus, to optimize treatment for depression together with patients, it is important to note patients' previous weight history, somatic comorbidities, and lifestyles. Information on the possible weight-gain risk at the beginning of both depression and antidepressant treatment needs to be given to each patient.<sup>21</sup> In addition to evaluating the response to treatment for depression, weight change needs to be followed by asking direct questions concerning weight, unless the measurement of weight is not possible.

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**Potential conflicts of interest:** None reported.

**Funding/support:** None reported.

Submitted: December 15, 2014; accepted December 16, 2014.

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J Clin Psychiatry 2015;76(6):e828-e829 (doi:10.4088/JCP.14com09738).

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