Examining the Link Between Obesity and Mental Illness

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When medical professionals think of the health consequences of obesity, we usually think of increased prevalence of coronary artery disease, stroke, some cancers, diabetes, and hypertension. If we think a bit more, osteoarthritis, gallstones, asthma, and sleep disorders come to mind.1 How many of us are aware of the connection between obesity and the increased risk of various mental illnesses and conditions?

General Associations

Overall, obesity is associated with a 25% increase in risk of mood and anxiety disorders.2 This estimate is based on a study of 9125 US residents who provided information on psychiatric disorders (mood, anxiety, and substance use disorders), along with their height, and weight in a 2001-2003 in-person survey. The association of obesity with psychiatric disorders held regardless of age, sex, or whether the respondent was a smoker.

In a more recent study, data from 41,654 respondents in the National Epidemiologic Survey on Alcohol and Related Conditions showed that an increased body mass index (BMI) was significantly associated with a higher incidence of mood, anxiety, and personality disorders.3 When respondents were classified into BMI categories of underweight (BMI less than 18.5), normal weight (BMI, 18.5 to 24.9) overweight (BMI, 25 to 29.9), obese (BMI, 30 to 39.9), and extremely obese (BMI more than 40), those in both obese categories had a significantly increased risk of any mood, anxiety, and alcohol-use disorder, as well as a much higher risk of any personality disorder, with odds ratios (ORs) ranging from 1.21 to 2.08.

In a recently published study of 12,992 New Zealand residents 16 years and older, obesity was significantly associated with mood disorder (OR, 1.23), major depressive disorder (OR, 1.27), and any anxiety disorder (OR, 1.46), especially posttraumatic stress disorder (OR, 2.64).4

Specific Associations

The data on the connection between overweight and particular mental illnesses are more compelling. Even in patients with bipolar disorder (BD) who are not taking medications, there is a significant link to obesity. A recent Italian study showed that 40.8% of persons with BD met criteria for obesity or overweight, which is dramatically higher than the percentages of both a control group of psychiatric patients with obsessive-compulsive disorder (10.8%) and census figures for the same age and socioeconomic class (13.3%).5 The study authors suggest that the weight increase in persons with BD may derive from the hyperphagia, lethargy, and hypersomnia associated with the depressive phase of BD.

Vogelzangs and colleagues6 found increases in sagittal diameter and visceral fat (2 measures of abdominal obesity) in a community-based sample of 2088 older persons with baseline major depression compared with older persons without major depression over a 5-year period. This finding was more significant than and independent of overall obesity and was not explained by medication or sociodemographic factors. The researchers speculate that an underlying pathophysiological
mechanism, possibly involving the hypothalamic-pituitary-adrenal (HPA) axis, links depression with visceral fat accumulation. Furthermore, the increase in visceral fat in persons with major depression may help explain why type 2 diabetes and cardiovascular disease frequently develop in obese persons.

Untreated schizophrenia seems to have only a mild predisposition to cause weight gain. However, the use of atypical antipsychotic medications (often in high doses) to treat persons with schizophrenia has contributed to weight gain becoming a common and serious problem. Weight gain in persons treated for schizophrenia has been linked to the use of antipsychotic medications, particularly some newer atypical agents, such as clozapine and olanzapine. Lesser but still significant weight gain is caused by quetiapine and risperidone. Other commonly used medications, including lithium, valproate, gabapentin, and some antidepressants, can also cause weight gain. Weight gain is believed to result from the effect of these medications on stimulating appetite. Medications such as ziprasidone, aripiprazole, carbamazepine, and lamotrigine are not associated with significant weight problems.

Managing the Weight Problem

Topiramate, an antiseizure medication, not only has been shown to be effective in stabilizing persons with BD but (unlike most other commonly used antipsychotic drugs) is associated with significant weight loss. In an open study conducted at Massachusetts General Hospital's Bipolar Clinic in which topiramate was used to treat persons with BD, 4 of 11 participants with a BMI of 28 or more experienced a mean weight loss of 29.7 lb during the 22-week study.

Wu and colleagues showed that weight gain associated with the use of atypical antipsychotic medications may be minimized or reversed by a combination of lifestyle intervention (diet and exercise) and the addition of metformin (750 mg/d). Lifestyle changes alone have been shown to decrease BMI and weight in persons with schizophrenia and schizoaffective disorder. A randomized, double-blind study comparing the metabolic effects of olanzapine and aripiprazole showed that overweight persons with schizophrenia or schizoaffective disorder (who had previously taken olanzapine) experienced clinically relevant weight loss when they switched to aripiprazole. There was also a decrease in triglyceride levels among persons who switched to aripiprazole, while those who continued to take olanzapine experienced an increase in triglyceride levels. Patients’ mental well-being was not adversely affected.

A Costly Problem

Obesity that occurs in the context of mental illness may represent a specific cost burden. A recent study compared health care expenditures of 2440 obese adults 21 years and older, with and without mental illness, who had at least 1 chronic physical illness (eg, asthma, diabetes, cardiovascular disease). Obese persons with mental and physical illness were more likely to use emergency services and had higher total, outpatient, and pharmaceutical expenditures than obese persons with physical illness only. Mean annual total medical expenditures for obese adults with mental and physical illness were $9897, compared with $6584 for obese adults with physical illness only.

Conclusion

The association between obesity and mental illness needs to be investigated further, but the co-occurrence is real and needs to be addressed.

References:


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