Depressed Mood Is Related To High Intake of Chocolate

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Depressed mood was significantly related to higher consumption of chocolate in a cross-sectional study of 931 men and women. A cross-sectional design precludes drawing conclusions as to causality or even directionality of the association, so this study could not determine which of the two comparators—depressed mood or chocolate intake—preccedes, much less causes, the other, said Dr. Natalie Rose, of the department of obstetrics and gynecology, University of California, Davis, and her associates.

A recent exploratory study of sweets in general noted that subjects with depressive symptoms showed a higher than average intake of chocolate.

That study was confined to women only, used a single measure of chocolate consumption, and used a measure of mood symptoms that is not widely recognized.

In contrast, Dr. Rose and her colleagues examined this possible link using a larger sample of both men and women, two measures of chocolate consumption (a food frequency questionnaire and another questionnaire that quantified chocolate intake specifically), and the Center for Epidemiological Studies–Depression Scale (CES-D) to measure mood (Arch. Intern. Med. 2010;170:699-703).

A CES-D score of 16 or higher indicates possible depressed mood, while a score of 22 or higher indicates major depression. In this study, subjects with scores above 16 were found to eat significantly more chocolate than subjects with lower scores (8.4 vs. 5.4 servings per month). A serving was considered to be “one small bar or 1 ounce (28 g) chocolate candy.” Those with a score of at least 22 ate an average of almost 12 servings per month.

To ensure that this association was specific to chocolate, the investigators looked for similar links between depressive symptoms and the intake of fat, carbohydrates, and total energy.

There were no significant associations. In addition, no link was found between mood and the consumption of other antioxidants, foods, such as fish, coffee, caffeine, or fruits and vegetables.

There are several possible explanations for the association between depressive symptoms and chocolate consumption.

Depression could stimulate chocolate cravings as a means of self-medication. Or a high intake of chocolate could contribute to depressed mood. Or some unknown factor such as oxidative stress or inflammation could produce both depressive symptoms and chocolate cravings.

Alternatively, the association might be more complex, with chocolate itself producing mood-elevating effects but with some constituent that is frequently combined with chocolate (such as trans fats) neutralizing or reversing this benefit. Or it might be that chocolate intake is analogous to alcohol intake, in that it produces short-term mood elevation but longer-term depressive effects.

“Distinguishing among these possibilities will require different study designs,” Dr. Rose and her associates said.

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