

Chocolate: Enjoy It In Small Amounts

The Aztecs called cacao beans "a gift of the gods." They used them for gifts, and mixed roasted ground cacao beans with water and maize to make a bitter drink. Today, the world consumes about 3 million tons of cacao beans each year. Transforming imported cacao beans into chocolate is a very large industry and helps support U.S. agricultural business. On average, each American eats 10 to 12 pounds of chocolate a year.

A balanced, nutritious diet can include chocolate, but keep portions small! One regular-sized plain milk chocolate bar has about 230 calories and 13 grams of fat, which is about a fourth of the daily fat allowance for most people. In addition to carbohydrates, fats and protein, chocolate provides antioxidant phytochemicals and micronutrients. It is rich in the minerals magnesium, copper and manganese, and also contains potassium, zinc and B vitamins riboflavin and niacin. Chocolate contains flavonoids, which help prevent cholesterol from clogging arteries. The fat in chocolate is cocoa butter, which mostly has a neutral effect on cholesterol levels in people because it is composed mainly of stearic and oleic fatty acids. However, stearic acid may increase blood clots. In summary, eating small portions of chocolate will provide calories and nutrients to one's diet. If eaten in large amounts, it can contribute to being overweight. You should not substitute chocolate in your diet for the main food groups of grains, vegetables, fruits, protein foods and dairy products.

Why do so many people feel a passion for chocolate, and why do certain people periodically feel intensely motivated to eat chocolate? There may be many reasons; no one is sure exactly why. On the other hand, some people are allergic to chocolate, and others simply do not desire it. For most people, chocolate is pleasurable to smell and eat. It affects our minds and bodies, and preference for chocolate is affected by one's culture.

Chocolate's unique taste, smell and texture are the best reasons to explain chocolate cravings. Simply put, people choose to indulge in chocolate because it greatly appeals to our senses. Chocolate contains large amounts of sugar and fat, and many natural chemicals, which explode on the tongue with flavor. It has a melting point that is just one degree less than body temperature, 97 degrees. So as soon as chocolate is on the tongue, it starts to melt and that's a creamy, mouthwatering sensation. Chocolate can be a useful addition to foods to stimulate appetite in people with a reduced sense of taste or smell, and it can be added to mask the flavor of a food that is not well-liked by certain individuals.

Part of love for chocolate is psychological. We tend to associate chocolate with good memories. There often is a strong connection with chocolate as a comfort food. For example, hot chocolate may evoke the image of a sitting around a warm fire talking with friends, or chocolate candy may be remembered as a reward from parents or teachers, or given as a token gift of love.

Many people who crave chocolate eat it for emotional reasons. There are several non-specific explanations for chocolate's physiological effects on the mind and the body and why it can affect our emotions. Chocolate may influence the body's neurotransmitters, which are soothing substances in the brain that help one feel calm and relaxed. Foods high in sugar and starch (high-carbohydrate foods) cause the neurotransmitter serotonin to be released. But any food high in

carbohydrates, not just chocolate, can help create the feeling. Women may be more sensitive to changes in serotonin than men. Also, the fat in chocolate can cause endorphins to be released. These brain chemicals can help lift your spirit, and generate a feeling similar to a runner's "high." Chocolate has both sugar and fat, so it is a food that potentially can improve mood since it can raise both serotonin and endorphin levels. Some scientists have also speculated that chocolate cravings may occur in certain people because of stress-induced magnesium deficiency.

Gender differences for love of chocolate have been reported. In a U.S. study on food cravings, men preferred protein foods, such as pizza or meat, while women were 22 times more likely to choose chocolate. Another study compared food cravings among men and women in the U.S. and Spain. In both countries, more men (60%) craved salty or meat-containing foods while more women (60%) craved sweets. Among sweet cravers, chocolate craving was much more frequent for American females (45%) than for American males (17%), but no such gender difference occurred for the Spaniards (29 and 22%). Thus, chocolate cravings seem to be culturally influenced. These results do not support a physiological basis (such as fluctuations in women's hormones during the menstrual cycle) for chocolate craving.

Chocolate contains many biologically active compounds. Some are similar to compounds in marijuana, but are present in such low concentrations that it would take more than 25 pounds of chocolate to possibly bring about the same effects as one joint of marijuana. The stimulant caffeine can give one a "boost," but the amount of caffeine in chocolate is much smaller than the quantity in colas, coffee or tea. Another compound in chocolate that affects mood is phenylethylamine (PEA). We release PEA when we are "in love." But it does not make chocolate act as an aphrodisiac, since very soon after it is eaten, PEA is broken down by the body before it enters the blood supply and affects the brain. Some cheeses and sausage have much more PEA than chocolate, but yet are not associated with cravings.

We do not understand the reasons for chocolate cravings, but they are real for certain people. We should pay attention to these cravings and consider chocolate intake carefully when evaluating the nutritional quality of our total diet, and its impact on our overall health. When a desire for chocolate hits, beware! Binging on too much chocolate does not lead to comfort, and can lead to feelings of guilt. More is not better. Before trying to satisfy your appetite for chocolate, fill your stomach hunger with other foods, then satisfy your "emotional hunger" by diverting your attention to another comforting activity. If desired, on occasion enjoy chocolate as a flavoring agent for another food, or truly savor a small portion of chocolate.

Sources: Journal of American Dietetic Assoc. 99(10):1249-1256. 1999; Agricultural Research Magazine 47(11):2-5. 1999; Appetite 31(1):61-70. 1999.

Mary L. Meck Higgins, Ph.D., RD, LD.
Extension Specialist, Nutrition Education

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