



International Journal of Medicine and Pharmaceutical Research

Journal Home Page: www.pharmaresearchlibrary.com/ijmpr



Review Article

Open Access

Health Effects and Benefits of Chocolate

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ABSTRACT

Its history can be traced back to the ancient peoples of Central and South America. Early civilizations gave a religious significance to their beloved cocoa and their descendants still give offerings of cacao to their gods to this day. Chocolate may even have helped change the course of history. One of the great riches of the New World discovered by the conquistadors, a vein of chocolate runs through many historical events: imperialism and the slave trade, revolutions planned in the coffee houses of 17th-century Europe, the Industrial Revolution and as a welcome boost to the morale of troops in many wars. Today, it is impossible to imagine a world without chocolate. In the words of Milton Hershey, founder of the Hershey Chocolate Company, "caramels are only a fad. Chocolate is a permanent thing.

Keywords: Physico-chemical traits, ash values, SEM, FT-IR spectroscopy

ARTICLE INFO

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Article History: Received 15 October 2014, Accepted 10 December 2014, Available Online 10 February 2015

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Manuscript ID: IJMPR2367



PAPER-QR CODE

Citation: Bachu Naveena, et al. Physicochemical Health Effects and Benefits of Chocolate. *Int. J. Med. Pharm, Res.*, 2015, 3(1): 948-955.

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1. Introduction

People eat chocolate because they enjoy it,” not because they think it’s good for them, and the idea of the study is to see whether there are health benefits from chocolate’s

ingredients minus the sugar and fat, said Dr. JoAnn Manson, preventive medicine chief at Harvard-affiliated Brigham and Women’s Hospital in Boston. The word

'chocolate' entered the English language from Spanish. Chocolate comes from Nahuatl, the language of Aztecs

from the word "xocolatl" made up from word "xococ" meaning sour or bitter, and "atl" meaning water or drink.

Types of Chocolate:



2. Benefits of Chocolates:

White Chocolate:

White chocolate is a chocolate derivative. It commonly consists of cocoa butter, sugar and milk solids and is characterized by a pale yellow or ivory appearance. The melting point of cocoa butter, its primary cocoa bean component, is high enough to keep white chocolate solid at

room temperature. Although white chocolate was first introduced by Hebert Candies in 1955, Mars, Incorporated, was the first to produce it in the United States.

Benefits:



White chocolate is not chocolate in the strict sense as it does not contain cocoa solids. Some preparations known as confectioner's coating or summer coating may be confused with white chocolate, but are made from inexpensive solid or hydrogenated vegetable and animal fats, and are not at all derived from cocoa. These preparations may actually be white (in contrast to white chocolate's ivory shade and will lack cocoa butter's flavor. White chocolate contains only

trace amounts of the stimulants theobromine and caffeine, while lacking the antioxidant properties or many characterizing ingredients of chocolate, such as thiamine, riboflavin, and phenylethylamine. Often, the cocoa butter is deodorized to remove its strong flavor. Rich in carbohydrates and fat and containing small amounts of caffeine, chocolate is an excellent source of quick energy

Milk Chocolate



The health benefits of milk chocolate are not as many as dark chocolate, however, there are still some to be considered. It is a stimulator, to the brain, to the emotions, thus, increasing your stamina. Of course, moderation, International Journal of Medicine and Pharmaceutical Research

because it is high in fat content and sugar. Point to be taken here is we need fat in our diet, seriously, and milk chocolate can be a great source for that fat percentage, just not all of it should come from eating milk chocolate. Be sure to read

the nutritional section of each chocolate substance you obtain so you know what you have to eat or bake with - very important. While milk chocolates contain 15 to 25

percent cocoa. Some of the best milk chocolate recipes have come from the laboratory so to speak. Perhaps you will be the next Thomas Edison of milk chocolate.

Dark Chocolate:



Dark Chocolate is a chocolate derivative. It commonly consist of Pure dark chocolate, chocolate liquor, cocoa butter, cocoa powder and a sweetener. But there can be

other ingredients in chocolate and still meet the FDA's requirements

Benefits:

10 Proven Health Benefits of Dark Chocolate

1. Dark Chocolate is Very Nutritious

If you buy quality dark chocolate with a high cocoa content, then it is actually quite nutritious. A 100 gram bar of dark chocolate with 70-85% cocoa contains :

- 11 grams of fiber.
- 67% of the RDA for Iron.

- 58% of the RDA for Magnesium.
- 89% of the RDA for Copper.
- 98% of the RDA for Manganese.
- It also has plenty of potassium, phosphorus, zinc and selenium.

Of course, 100 grams (3.5 ounces) is a fairly large amount and not something you should be consuming daily. All these nutrients also come with 600 calories and moderate amounts of sugar. For this reason, dark chocolate is best consumed in moderation. The fatty acid profile of cocoa

and dark chocolate is excellent. The fats are mostly saturated and monounsaturated, with small amounts of polyunsaturates. It also contains stimulants like caffeine and theobromine

2. Dark Chocolate is a Powerful Source of Antioxidants:



It is measured by ORAC it stands for Oxygen Radical Absorbance Capacity. It is a measure of the antioxidant activity of foods. Dark chocolate is loaded with organic compounds that are biologically active and function as antioxidants. These include polyphenols, flavanols, catechins, among others. Cocoa and dark chocolate have a wide variety of powerful antioxidants, way more than most other foods.

3. Dark Chocolate May Improve Blood Flow and Lower Blood Pressure



The flavanols in dark chocolate can stimulate the endothelium, the lining of arteries, to produce Nitric Oxide (NO), which is a gas. One of the functions of NO is to send signals to the arteries to relax, which lowers resistance to blood flow and therefore reduces blood pressure. The bioactive compounds in cocoa can improve blood flow in the arteries and cause a small but statistically significant decrease in blood pressure.

4. Dark Chocolate Raises HDL and Protects LDL against Oxidation:

Consuming dark chocolate can improve several important risk factors for heart disease. In a controlled trial, cocoa powder was found to significantly decrease oxidized LDL cholesterol in men. Oxidized LDL means that the LDL ("bad" cholesterol) has reacted with free radicals. This makes the LDL particle itself reactive and capable of damaging other tissues... such as the lining of the arteries in your heart. It makes perfect sense that cocoa lowers oxidized LDL. It contains an abundance of powerful antioxidants that do make it into the bloodstream and protect lipoproteins against oxidative damage.

Dark chocolate can also reduce insulin resistance, which is another common risk factor for many diseases like heart disease and diabetes. Dark chocolate improves several important risk factors for disease. It lowers the

6. Dark Chocolate May Protect Your Skin Against The Sun:

The bioactive compounds in dark chocolate may also be great for your skin. The minimal erythemal dose (MED) is the minimum amount of UVB rays required to cause

7. Dark Chocolate May Improve Brain Function:



8. Relieves Stress:

To relieve Stress or Lift a low mood, you can always rely on dark chocolate. It helps increase the levels of the neurotransmitter serotonin that acts as natural antidepressants. They found that eating about 1.4 ounces of dark chocolate daily for two weeks can reduce levels of stress hormones in people feeling highly stressed. Dark chocolate has magnesium that helps fight stress, fatigue, depression and irritability.

10. Aids Weight Loss:

One ounce of dark chocolate with between 70 and 85 percent cocoa three times a week can help you lose extra body weight .it is rich in fiber, which helps keep you feeling full for a longer time period. According to research



susceptibility of LDL to oxidative damage while increasing HDL and improving insulin sensitivity.

5. Dark Chocolate May Lower The Risk of Cardiovascular Disease:

The compounds in dark chocolate appear to be highly protective against the oxidation of LDL. In the long term, this should cause much less cholesterol to lodge in the arteries and we should see a lower risk of heart disease over the long term. However, given that we have a biological mechanism (lower blood pressure and oxidized LDL) then I find it plausible that regular consumption of dark chocolate can in fact reduce the risk of heart disease. It show a drastic reduction in heart disease risk for the people who consume the most chocolate.

redness in the skin, 24 hours after exposure. If you're planning on a beach vacation, consider loading up on dark chocolate in the prior weeks and months. The flavonols can protect against sun-induced damage, improve blood flow to the skin and increase skin density and hydration .

The good news isn't over yet. Dark chocolate may also improve the function of the brain. Cocoa may also significantly improve cognitive function in elderly people with mental impairment. It also improves verbal fluency and several risk factors for disease. Cocoa also contains stimulant substances like caffeine and theobromine, which may be a key reason cocoa can improve brain function in the short term.

9. Prevents Stroke:

Eating dark chocolate in moderation regularly can even lower the chance of stroke in later life. This is due to its high level of flavonoids, a type of antioxidant. Flavonoids can reduce blood stickiness and Prevent blood clotting , which in turn helps stave off heart attacks and strokes To improve blood flow in the brain and cut the of stroke ,eat asingle bar of dark chocolate once a week

conducted at the university of Copenhagen, eating dark chocolate in moderation gives you a more filling effect and lessens your cravings for fatty, sweet and salty foods.



Theobromine is less toxic to rats, mice, and humans, who all have an of about 1,000 mg/kg. Long regarded as a food treat, cocoa is now used by some people as medicine. Cocoa seed is used for infectious intestinal diseases and diarrhea, asthma, bronchitis, and as an expectorant for lung congestion. The seed coat is used for liver, bladder, and kidney ailments; diabetes; as a tonic; and as a general remedy. Cocoa butter is used for high cholesterol. Cocoa contains flavonoids which are antioxidants with beneficial functions such as helping to repair cells along with minerals such as calcium and potassium. Flavonoids can also help

lower your cholesterol and blood pressure. The Food and Drug Administration (FDA) in the next few years based on research they sponsored regarding the potential role of cocoa flavonoids in cardiovascular health. Flavonoids are chemicals that might lower blood pressure. And also it can help reduce age-related memory decline. Some people apply cocoa butter to the skin to treat wrinkles and to prevent stretch marks during pregnancy. In manufacturing, cocoa butter is used as a base for various ointments and suppositories made by drug companies.

3. Effects of Chocolates

White Chocolate:



Weight Gain and Heart Disease

Chocolate is high calories, and excess caloric intake leads to weight gain. Being overweight can result in a number of health problems, including heart disease, diabetes and high blood pressure. But if you eat only one or two small pieces of the chocolate bar, rather than the entire thing, you should

be able to control your weight while fulfilling your chocolate craving. One bar of milk chocolate that has contains 235 calories, in which come from Saturated fat elevates blood cholesterol, which puts you at risk for heart disease and stroke.

Effect of Candy chocolate:



Eating too much candy has negative effects on your health. Candy should therefore be eaten in moderation. Chocolate may cause headaches in migraine sufferers. Candy is high in sugar and the ingredients used to make it are full of calories and, in some cases, saturated fat. Too much sugar can promote cavities and can affect insulin levels, which

can raise the risk of cancer, high-blood pressure, heart disease, osteoporosis, obesity and depression. Candy contains no vitamins and very small, if any, amounts of minerals, which mean you, can satisfy hunger eating them but doing nothing to meet your daily nutrient intake requirements.

Milk Chocolate:



Risk of Diabetes:

One milk chocolate bar has 26 grams of carbohydrates and 1 ounce of dark chocolate has 17 grams, most of which is

Chocolate can contribute to tooth decay and diabetes

Chocolate is high in sugar. Without sugar it would taste too bitter for most people to eat. High amounts of sugar in your diet can lead to dental problems like tooth decay gum disease and cavities. Practically all milk chocolate brands contain hydrogenated oils as well, added as a filler as well as a preservative. Hydrogenated fats are trans fats, which have been linked to increased risk for a host of lifestyle illnesses like coronary heart disease, stroke, obesity, diabetes, and cancer. Milk chocolate should be avoided if you want to reach your health and wellness goals. As if this is not alarming enough, these hydrogenated fats come mostly from unhealthy soy bean oil, sunflower oil, canola oil, safflower oil, or cottonseed oil. These vegetable oils have a significantly high omega-6 fatty acid and very little omega-3 fatty acid content, which makes milk chocolate consumption unsafe for those with existing inflammatory diseases like rheumatoid arthritis.

Milk chocolate contains considerable amounts of sweeteners like processed sugar and high fructose corn syrup as well. Excessive consumption of these sweeteners may bring about tooth decay and serious illnesses like

Dark Chocolate:**Effects:**

The main side effects include feeling good, an increased sense of well-being. Numerous studies have demonstrated

Cocoa Chocolate:**Effects:**

Cocoa solids are one of the richest sources of flavanol antioxidants.[3] They also contain alkaloids such as

from sugars or refined carbohydrates. Refined carbohydrates can cause spikes in your blood sugar, which can make your body resistant to insulin over time and may lead to Type 2 diabetes. This type of diabetes is especially prevalent among those who are overweight or obese. A study by researchers from three California universities, published in the February 2013 issue of "PLOS ONE" journal, found that a population's sugar consumption has a direct link with its rate of people with diabetes. Milk chocolate cause your blood sugar to become elevated by supplying you with more than a meal's worth of sugar.

Risk of cavities:

insulin resistance which could then lead to diabetes. High fructose corn syrup has also been linked to gastrointestinal maladies, headaches, hyperactivity, and decreased mental acuity. Low- or no-calorie versions of milk chocolate, meanwhile, contain unhealthy sugar substitutes like aspartame, sucralose and acesulfame, which to this day have not been thoroughly studied for their long-term impact on human health.

A concoction of chemicals are contained in milk chocolate brands as well. Take for instance caramel coloring which contains compounds that cause cancer in rats and have been identified by the US National Toxicology Program as possibly carcinogenic to humans. Milk chocolate brands coated in colorful shells contain food dyes that are linked to hyperactivity in children, formation of tumors in the kidneys and adrenal glands, and cancer of the brain as well. Butyric acid, a compound that renders that characteristic sour taste in some milk chocolate brands, is added as well. Butyric acid is classified as a toxic substance by the US Environmental Protection Agency, and ingestion of this compound may bring about abdominal pain, and in serious cases, shock and collapse.

the *health benefits* of modest amounts of *dark chocolate* from lowering blood. Dark chocolate bad for dogs.

the bromine, phenethylamine and caffeine. These have physiological effects on the body and are linked to serotonin levels in the brain. Some research has found that

chocolate, eaten in moderation, can lower blood pressure.^[5] The presence of the bromine renders chocolate toxic to

In humans:

In general, the amount of theobromine found in chocolate is small enough such that chocolate can be safely consumed by humans. However, occasional serious side effects may result from the consumption of large quantities, especially in the elderly.

In animals:

Serious poisoning happens more frequently in domestic animals, which metabolize theobromine much more slowly than humans, and can easily consume enough chocolate to cause chocolate poisoning. If large numbers of filled chocolate candies are consumed, another serious danger is posed by the fat and sugar in the fillings, which can sometimes trigger life-threatening pancreatitis several days later. The most common victims of theobromine poisoning are dogs, for which it can be fatal. The toxic dose for cats is even lower than for dogs. However, cats are less prone to eating chocolate since they are unable to taste sweetness. In dogs, the biological half-life of theobromine is 17.5 hours; in severe cases, clinical symptoms of theobromine

some animals,^[6] especially dogs and cats.

poisoning can persist for 72 hours. Medical treatment performed by a veterinarian involves inducing vomiting within two hours of ingestion and administration of benzodiazepines or barbiturates for seizures, antiarrhythmics for heart arrhythmias, and fluid diuresis. Theobromine is also suspected to induce right atrial cardiomyopathy after long term exposure at levels equivalent to ~15 g of dark chocolate per kg of weight and per day. Chemists with the USDA are investigating the use of the bromine as a toxicant to control coyotes that prey on livestock.^[10]

Theobromine poisoning:

The first signs of theobromine poisoning are nausea, vomiting, diarrhea, and increased urination. These can progress to cardiac arrhythmias, epileptic seizures, internal bleeding, heart attacks, and eventually death. Cocoa may positively affect the circulatory system. Cocoa contains moderate to high amounts of oxalate, which can cause some health concerns particularly for individuals at risk for kidney stones.

4. Conclusion

Finally concluded that equally it can be concluded that chocolate influenced to whether chocolate has any cardio

vascular health benefits a diet high in fat & calories is known to increase the risk.

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