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CHOCOLATE: MYTHS AND FACTS

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Resume. *Chocolate is believed to be responsible for development of certain health disorders. But in fact, research is continuing all the time, and experts have already found connections between using chocolate and lowered risk of current widespread diseases. This report summarize contemporary knowledge about influence of basic chocolate components on human body.*

Keywords: health; chocolate; myths; facts.

Relevance. Chocolate is one of the most popular food types and an ingredient of numerous foodstuffs. But not all types of chocolate offer health benefits. Dark chocolate with simple ingredients that are all natural is the best choice. It is proved to be much healthier than more common milk and white kinds.

Aim: to summarize data about chocolate and to differ myths about chocolate from real facts.

Materials and methods. Our study is based on compiling materials from foreign literature. We studied the research papers published on this topic and analyzed the results of experiments showing the influence of chocolate components on our metabolic processes. We also interviewed more than 150 students of BSMU.

Results: Dark chocolate is a very popular type of chocolate, which is made without the use of any milk solids. The main dark chocolate ingredients are cocoa butter, cocoa

powder and sugar. Dark chocolate is okay to be consumed daily and, in fact, is recommended. The basic four ingredients for milk chocolate are sugar, cocoa butter, chocolate liquor and dry milk solids, which look like powdered milk. It's the most common kind of chocolate. White chocolate is a popular type of chocolate made from cocoa butter, milk solids and sugar. As it does not contain any cocoa solids, there is no theobromine and no flavanols. That's why many countries do not consider white chocolate as chocolate at all.

The most common beliefs connected to chocolate:

1) Chocolate improves mood and the nervous system condition.

Flavanols, a type of antioxidant, which are found in high concentrations in dark chocolate, are linked to human emotions. Dopamine is a neurotransmitter that conducts signals between the brain's nerve cells. It is considered as a source for feelings of happiness and pleasure but it can contribute to conditions that may trigger migraines. One of the most unique neurotransmitters released by chocolate is phenylethylamine. The so-called "love drug" causes changes in blood pressure and blood-sugar levels leading to excitement and alertness. Chocolate also contains anandamide, a neurotransmitter produced in the brain that blocks pain and depression. It is also responsible for memory and higher thought processes. Chocolate is referred to as "the new anti-anxiety drug".

2) Chocolate is bad for your cholesterol and can cause cardiovascular diseases

Chocolates, especially, dark chocolates, contain high amounts of 18-carbon stearic acid which lowers plasma LDL and cholesterol level in blood streams. In addition, research shows that flavanols have influence on vascular health. They lower blood pressure, improve blood flow to the brain and heart, and make blood platelets less sticky and able to clot. Dark unprocessed raw cacao kinds reduce the risk of certain cardio metabolic disorders, such as coronary heart disease, stroke, diabetes, and metabolic syndrome, hypertension, high cholesterol, and abdominal obesity.

3) Chocolate boosts immune functions

Cacao has been proven to be higher in antioxidants than any other food in its raw form. Antioxidants are the key to immune function. But take into consideration that most chocolate undergoes processing — fermenting, roasting, dilution — that strips away considerably its antioxidant activity. It's also high in magnesium and zinc that are crucial to immune health. They fight off disease, enhance the immune system and lower stress in the body. Furthermore, cocoa influences the inflammatory response, systemic and intestinal adaptive immune response.

Cocoa is so healthy that it could be used in medicine. However, cacao is extremely bitter and that's why many chocolate companies enrich their products with sugar and fat. Scientists claim to have developed the "medicinal" chocolate, with lower per cent of fat. The long-term goal is to develop chocolate with just 10 per cent of fat and sugar.

4) Chocolate causes weight gain

If you eat too much milk or white chocolate you'll start to put on weight. However, the same applies to eating too much of almost anything. Chocolate's bad reputation is slowly changing and research now shows that chocolate can be a part of an overall healthy lifestyle, when consumed in moderation. Chocolate contains epicatechin which increases

mitochondria (its function is to burn calories) and beneficial to weight loss.

5) Chocolate causes tooth decay and cavities

Tooth cavities are formed when bacteria in the mouth metabolize sugars from any type of food to produce acid. In fact, cocoa contains substances that may inhibit the growth of these bacteria. In addition, some of the elements found in chocolate—phosphate, calcium, and protein—can all contribute to healthy tooth enamel. Studies have shown that chocolate causes less harm to teeth than other foods with the same amount of sugar.

6) Chocolate causes acne

Studies in the past twenty years have eliminated chocolate from acne causes. In fact, many dermatologists doubt that diet plays any significant role in the development of acne. Acne is now believed to be caused by a combination of high bacterial levels and oil on the skin.

7) Chocolate is high in caffeine

As it turns out, there are only five-ten milligrams of caffeine in one ounce of dark chocolate and only five milligrams in milk chocolate. To compare, one cup of regular coffee contains from 100 to 150 milligrams of caffeine.

8) Chocolate decreases the risk of tumor growth

Researchers discovered that pentameric procyanidin found in chocolate is able to deactivate certain proteins in the body, stopping the production of new tumor cells. It mostly concerns dark chocolate. It is also possible that flavanols in chocolate could have anti-cancer benefits.

9) Chocolate lacks any nutritional value

Chocolate is a great source of potassium, magnesium, iron, copper, and zinc. At the same time, everything depends on the kind of chocolate. An average chocolate bar contains about the same amount of antioxidants as a glass of red wine.

10) Eating chocolate can result in diabetes

The current study showed that polyphenol-rich dark chocolate but not white chocolate decreases blood pressure and improves insulin sensitivity in healthy people.

Healthy chocolate should have cacao percentage 60% or higher. The first ingredient should be cocoa butter or cocoa liquor. Artificial flavors, milk fat, hydrogenated oils, soy lecithin, emulsifiers, preservatives and etc. indicate low-quality chocolate. If chocolate marked “organic” that means it does not contain any chemicals, fertilizers, toxins from pesticides or GMO. “Processed” chocolate contains much less flavanols. The type of sugar is also important: rapadura, organic cane juice and unrefined sugar are three excellent nutritious sugars.

Conclusion: Most commercial chocolate has ingredients that add fat, sugar and calories. As a result it can contribute to weight gain, a risk factor for high blood pressure, heart disease and diabetes. On the other hand, cocoa itself, unlike chocolate, is low in sugar and fat while offering potential health benefits. So chocolate should be used in moderation.

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