

# Dark chocolate: Half a bar per week to keep at bay the risk of heart attack

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Maybe gourmands are not jumping for joy. Probably they would have preferred bigger amounts to support their passion. Though the news is still good for them: 6.7 grams of chocolate per day represent the ideal amount for a protective effect against inflammation and subsequent cardiovascular disease.

A new effect, demonstrated for the first time in a population study by the Research Laboratories of the Catholic University in Campobasso, in collaboration with the National Cancer Institute of Milan.

The findings, published in the last issue of the *Journal of Nutrition*, official journal of the American Society of Nutrition, come from one of the largest epidemiological studies ever conducted in Europe, the Moli-sani Project, which has enrolled 20,000 inhabitants of the Molise region so far. By studying the participants recruited, researchers focused on the complex mechanism of inflammation. It is known how a chronic inflammatory state represents a risk factor for the development of cardiovascular disease, from myocardial infarction to stroke, just to mention the major diseases. Keeping the inflammation process under control has become a major issue for prevention programs and C reactive protein turned out to be one of the most promising markers, detectable by a simple blood test.

The Italian team related the levels of this protein in the blood of examined people with their usual chocolate intake. Out of 11,000, researchers identified 4,849 subjects in good health and free of risk

factors (normal cholesterol, blood pressure and other parameters). Among them, 1,317 did not use to eat any chocolate, while 824 used to have chocolate regularly, but just the dark one.

"We started from the hypothesis- says Romina di Giuseppe, 33, lead author of the study- that high amounts of antioxidants contained in the cocoa seeds, in particular flavonoids and other kinds of poly-phenols, might have beneficial effects on the inflammatory state. Our results have been absolutely encouraging: people having moderate amounts of dark chocolate regularly have significantly lower levels of C-reactive protein in their blood. In other words, their inflammatory state is considerably reduced." The 17% average reduction observed may appear quite small, but it is enough to decrease the risk of cardio-vascular disease for one third in women and one fourth in men. It is undoubtedly a remarkable outcome".

Chocolate amounts are critical. "We are talking of a moderate consumption. The best effect is obtained by consuming an average amount of 6.7 grams of chocolate per day, corresponding to a small square of chocolate twice or three times a week. Beyond these amounts the beneficial effect tends to disappear".

From a practical point of view, as the common chocolate bar is 100 grams, the study states that less than half a bar of dark chocolate consumed during the week may become a healthy habit. What about the milk chocolate? "Previous studies- the young investigator continues- have demonstrated that milk interferes with the absorption of polyphenols. That is why our study considered just the dark chocolate".

Researchers wanted to sweep all the doubts away. They took into account that chocolate lovers might consume other healthy food too, as wine, fruits and vegetables. Or they might exercise more than others people do. So the observed positive effect might be ascribed to other

factors but not to cocoa itself. "In order to avoid this- researcher says- we "adjusted" for all possible "confounding" parameters. But the beneficial effect of chocolate still remained and we do believe it is real".

"This study- says Licia Iacoviello, Head of the Laboratory of Genetic and Environmental Epidemiology at the Catholic University of Campobasso and responsible for the Moli-sani Project- is the first scientific outcome published from the Moli-sani Project. We consider this outcome as the beginning of a large series of data which will give us an innovative view on how making prevention in everyday life, both against cardiovascular disease and tumors".

"Maybe- Giovanni de Gaetano, director of the Research Laboratories of the Catholic University of Campobasso, adds - time has come to reconsider the Mediterranean diet pyramid and take the dark chocolate off the basket of sweets considered to be bad for our health".

Source: Catholic University

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