

# Flavanols in cocoa may offer benefits to the brain

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A special cocoa made to retain naturally occurring compounds called flavanols may have the potential to help maintain healthy brain function and chart the course for future research that could lead to new solutions for preventing cognitive decline and dementia, according to a panel of scientists who presented new data at the annual meeting of the American Association for the Advancement of Science (AAAS).

Several studies suggest that consumption of a special cocoa made to be rich in flavanols, a naturally occurring nutrient abundant in fresh cocoa, may improve blood vessel function. Now, scientists believe the potential blood flow benefits associated with consumption of this flavanol-rich cocoa may extend to the brain -- which could have important implications for learning and memory.

“This research is impressive in that multiple laboratories are coming to the same conclusion about this flavanol-rich cocoa, and the findings give us completely new insights into how this flavanol-rich cocoa may impact health in a variety of ways not previously known,” said symposium organizer Harold H. Schmitz, Ph.D., chief science officer at Mars, Incorporated, which helped sponsor today’s symposium and has supported research on cocoa flavanols for more than 15 years. “The findings raise the possibility that products utilizing this cocoa could be developed to help maintain healthy brain function throughout several life stages. More research examining the potential of this cocoa in this important area of public health need is clearly warranted.”

During the session entitled “The Neurobiology of Chocolate: A Mind-Altering Experience?,” a panel of scientists presented evidence from several recent studies that demonstrated the enhanced brain blood flow after study participants consumed a specially formulated flavanol-rich cocoa beverage that was supplied by Mars, Incorporated. One study, conducted by Ian A. Macdonald, PhD, from the University of Nottingham Medical School in the United Kingdom, found that the consumption of this cocoa resulted in regional changes in blood flow in study participants, suggesting that cocoa flavanols may have therapeutic potential for the treatment of vascular impairments within the brain itself.

“Our study showed that acute consumption of this particular flavanol-rich cocoa beverage was associated with increased blood flow to grey matter for 2 to 3 hours,” Macdonald said. “This raises the possibility that certain food components like cocoa flavanols may be beneficial in increasing brain blood flow and enhancing brain function among older adults or for others in situations where they may be cognitively impaired, such as fatigue or sleep deprivation.”

Norman K. Hollenberg, MD, PhD, of Harvard Medical School and Brigham and Women’s Hospital, presented new findings based on his ongoing work with the Kuna Indians of Panama, who are heavy consumers of cocoa. The indigenous population still living on the Islands near Panama consume a type of cocoa rich in flavanols on a daily basis and experience unusually low rates of hypertension and cardiovascular disease. Hollenberg’s latest findings, which are published this month in the International Journal of Medical Sciences, used death certificates to compare cause-specific deaths of island-dwelling Kuna to those who live on mainland Panama -- who do not drink the flavanol-rich cocoa that is so prominent on the islands.

Hollenberg and colleagues found the Kuna Indians living on the islands

had significantly lower rates of heart disease and cancer compared to those on the mainland. The relative risk of death from heart disease on the Panama mainland was 1,280 percent higher than on the islands and death from cancer was 630 percent higher. In his AAAS presentation, Hollenberg suggested that the same mechanism resulting in improved blood vessel function that he and others have observed following consumption of Mars' special cocoa could also be responsible for the enhanced brain blood flow he and Professor Macdonald have independently reported in previously published research. Specifically, Hollenberg and others have observed that these improvements in blood vessel function following flavanol rich cocoa consumption are paralleled by an increase in the circulating pool of nitric oxide, a critical molecule in the circulatory system that helps dilate blood vessels and keeps them pliable.

Hollenberg fed flavanol-rich cocoa to healthy volunteers who were over age 50 and observed a "striking blood flow response" that evolved over several weeks. "Since this cocoa preparation is so well tolerated, it raises hope that the brain blood flow response it stimulates can result in maintenance of healthy brain function and cognition, which is an issue that unfortunately plagues many older adults today," Hollenberg said. This advancement in science related to brain health is especially exciting at a time when the nation's 78 million baby boomers are aging. The need to impact cognitive function and brain health will only continue to grow with this aging population.

Source: Weber Shandwick Worldwide

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