



COSMOS-Mind: The results have been published!

Vitamins, minerals, and other bioactives in foods are important for normal brain function, and deficiencies in older adults may increase risk for cognitive decline.

COSMOS investigators partnered with colleagues at Wake Forest University to test whether daily use of cocoa extract or a multivitamin for 3 years can reduce the risk of cognitive decline. The COSMOS-Mind substudy enrolled 2,262 COSMOS participants aged 65 and older who completed annual telephone interviews to assess memory and thinking abilities. The investigators found that cocoa extract did not affect cognition. On the other hand, daily multivitamin use improved



cognitive function. Participants assigned to the multivitamin group had higher cognitive test scores after 3 years than the participants assigned to the placebo group. The investigators estimated that taking the daily multivitamin slowed cognitive aging by approximately 60%, or the equivalent of 1.8 years over the 3 years of the study, but this finding requires confirmation in future research.

“COSMOS-Mind provides the first evidence from a large randomized trial that regular daily multivitamin use may improve memory and thinking abilities in older adults,” noted COSMOS Co-Director Dr. Howard Sesso, who leads COSMOS with Dr. JoAnn Manson.

However, the story continues to unfold as other investigators dig more deeply in COSMOS into the effects of both cocoa extract and a multivitamin on different aspects of cognition and other aging-related outcomes. Stay tuned!
Reference: Baker LD et al., Alzheimer's & Dementia: The Journal of the Alzheimer's Association [e-published 2022 Sept. 14]



From the COSMOS Trial Directors

Dear COSMOS Participant,

Thank you for your dedication to COSMOS. Because of your continuing collaboration, COSMOS has answered the question of whether taking daily supplements of cocoa flavanols or a common multivitamin reduces the risk of developing heart disease, stroke, or cancer. As a reminder, we notified you via e-mail or postal letter about the study results in March 2022. The results are also posted in the Study Findings section of the COSMOS website, www.cosmostrial.org.

Please note that we plan to continue to send you annual health questionnaires for several more years. These questionnaires will be similar to those that you have completed in the past. Please be on the lookout for your next annual questionnaire, to be sent at the beginning of January 2023. Your response is important, regardless of which study

pills you received in the trial and whether or not you have had changes in your health since the previous questionnaire. The information that you provide will enhance the value of the data already collected and allow us to examine the longer-term effects of cocoa flavanol and multivitamin supplements compared with the placebos and to explore other health-related topics.

Although you may continue to submit your annual questionnaires by postal mail, you now have the option of completing these questionnaires online. If you have already provided your e-mail address to us, we will send you an e-mail with a personalized link to a secure website where you can fill out and submit your questionnaire. If you have not yet provided your e-mail address and would prefer the e-form option, please contact us at COSMOStrial@partners.org or 1-800-633-6913 at your earliest convenience.

As always, we welcome your current photos (without pill packs!), stories (travel or otherwise), and thoughts about participating in COSMOS. We are also excited to announce a fun new challenge for study participants (see page 2)! Photos, stories, reflections, and challenge entries may be sent to COSMOStrial@partners.org or the postal address at the bottom of page 2.

Thank you again for being part of the COSMOS community!



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COSMOS ancillary study on falls, physical function, and fracture

Since announcing the main results of COSMOS in March 2022, we have received many questions from participants. Here are answers to the most commonly asked questions.

Q: Are the COSMOS results tied to specific products? Should I expect the same effects with other similar products?

A: The multivitamin tested in COSMOS, Centrum Silver®, is very similar to the current Centrum Silver® Adults 50+ multivitamin, which contains a comprehensive set of essential vitamins and minerals to help meet recommended daily intakes. The cocoa extract supplement used in COSMOS is similar to CocoaVia™ Cardio Health; both include 500 mg cocoa flavanols, including about 80 mg (-)-epicatechin. We do not know whether the COSMOS results would apply to other multivitamin or cocoa flavanol supplements with similar or different amounts of nutrients.

Q: Should I start taking a multivitamin and/or a cocoa extract supplement?

A: For advice that takes into consideration your personal health history and diet, please discuss this question with your healthcare provider(s). Whether or not you choose to take supplements, it is important to eat a healthy, balanced diet rich in fruits, vegetables, and other nutrient-rich foods. We anticipate that, over the next year or two, medical and public health authorities will consider whether new recommendations regarding these supplements should be made based on the COSMOS results, including the findings for cognitive function described in this newsletter as well as forthcoming findings from other COSMOS studies. Our general guidance at this time is not to change whatever you are currently doing. That is, if you're already taking these supplements and you're doing well on them, there's no reason to stop taking them based on the study's results to date. On the other hand, if you're not taking these supplements, you may wish to wait to get a more complete picture of any potential benefits and risks before making your decision. Reassuringly, no safety concerns for either supplement were noted during the COSMOS trial.

Falls and decreased physical function increase markedly with age and may result in injury, hospitalization, and death. Safe, cost-effective prevention strategies are needed to reduce these outcomes in older adults. COSMOS investigators are partnering with colleagues Dr. Meryl S. LeBoff at Harvard Medical School and Dr. Carolyn Crandall at the University of California, Los Angeles to examine the effects of supplemental cocoa extract, as well as multivitamins, on falls, muscle performance, and fall-related injuries. The relation between these supplements and falls and fracture will be assessed in the entire COSMOS study population. Additionally, to study

the relation between the supplements and physical performance, Drs. LeBoff and Crandall will examine data in a subset of 600 COSMOS participants who lived within driving distance to Brigham and Women's Hospital in Boston, Massachusetts and completed in-clinic tests of physical performance, including grip strength, walking speed, and standing balance, at the beginning of the trial and again 2 years later. "If cocoa flavanols or multivitamins are found to improve musculoskeletal health and prevent falls and declining physical performance in the increasing number of older adults in the U.S., the implications for clinical and public health would be very important," said Dr. LeBoff.

COSMOS COVID-19 study update

In 2020, we sent a series of online surveys about COVID-19 to COSMOS participants who had previously provided their e-mail addresses to us. Participants were asked whether they had been tested for or diagnosed with COVID-19, whether they had experienced symptoms, and about the pandemic's impact on their physical and emotional well-being. Similar questions were included on the 2021 and 2022 annual questionnaires and will also be included on next year's questionnaire, to be sent to you in January 2023. Taken together, the information provided will enable a deeper understanding of risk factors for, and the evolving impact of, COVID-19, including "long-haul" symptoms, in a diverse national sample of midlife and older adults.

Thank you for your continued support of this important area of research. Analyses of the data are underway, and we will share the results with you when they are published.

Participant Challenge

Describe COSMOS in only ONE word! Please send your word to COSMOStrial@partners.org or the postal address in the box to the right. We'll share the responses in a future newsletter.



Cocoa Supplement and **M**ultivitamin Outcomes Study (COSMOS)

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