



## A CLINICAL TRIAL OF THE EFFECTS OF COCOA RICH CHOCOLATE ON DEPRESSION AND SLEEP QUALITY IN MENOPAUSAL WOMEN

Abdoli, E ; Rezaie, E ; Mirghafourvand, M ; Payahoo, L ; Naseri, E ; Ghanbari-Homaie, S  
Scientific reports. 2024;14(1):23971

Natural menopause refers to the cessation of menstruation due to ovarian follicular function decline without the presence of other physiological or pathological factors. Menopause causes a reduction in oestrogen levels that affects both the body and the brain. Approximately 74 to 80% of women have menopausal symptoms.

This study aimed to determine the effect of 78% dark chocolate on depression scores (primary outcome), sleep quality, and anthropometric indices such as weight, body mass index, waist circumference, and hip circumference (secondary outcomes) among Iranian menopausal women. This research was a parallel, randomised, triple-blind clinical trial which enrolled menopausal women with depression aged between 45 and 65 years of age. Participants were randomly assigned to intervention or control groups (1:1 ratio). 78% dark chocolate was utilised for the intervention group, while milk chocolate was used for the control group. Results showed that daily consumption of 10 g of 78% dark chocolate has beneficial effects on mild and moderate depression scores in menopausal women. Authors concluded that their findings can be beneficial in nutritional education related to lifestyle modification for menopausal women, as chocolate consumption is an easy and enjoyable complementary method.

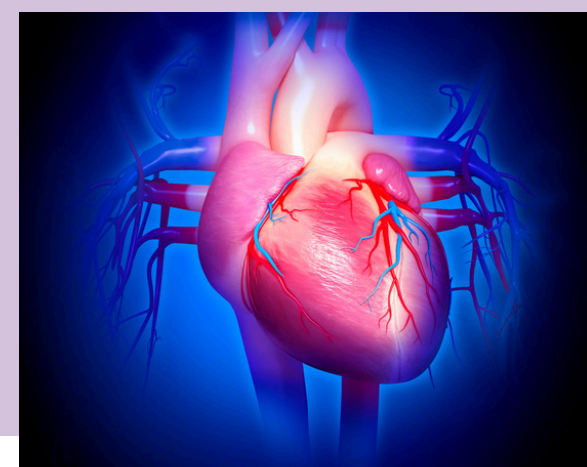
## EFFECTS OF COCOA CONSUMPTION ON CARDIOMETABOLIC RISK MARKERS: META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS

Arisi, TOP ; da Silva, DS ; Stein, E ; et al.  
Nutrients. 2024;16(12)

The cocoa fruit is rich in polyphenols, especially flavonoids, which may be responsible for beneficial cardiovascular effects. Once consumed, cocoa may activate nitric oxide, and have antioxidant and anti-inflammatory effects resulting in positive effects on endothelial function, blood pressure, platelet function, insulin resistance, and blood lipids.

This study aimed to determine the long-term effects of cocoa consumption on cardiometabolic risk factors. This was a systematic review and meta-analysis of 31 randomised control trials.

The results showed that regardless of whether it is a supplement or as dark chocolate, cocoa improved total cholesterol, low-density lipoprotein cholesterol, fasting blood glucose, and blood pressure. However, no effects were seen on body weight, body mass index, waist circumference, triglycerides, high density lipoprotein and glycated haemoglobin. The authors concluded that the consumption of cocoa showed positive effects on cardiovascular risk.



## EFFECT OF DARK CHOCOLATE/ COCOA CONSUMPTION ON OXIDATIVE STRESS AND INFLAMMATION IN ADULTS: A GRADE-ASSESSED SYSTEMATIC REVIEW AND DOSE-RESPONSE META-ANALYSIS OF CONTROLLED TRIALS.

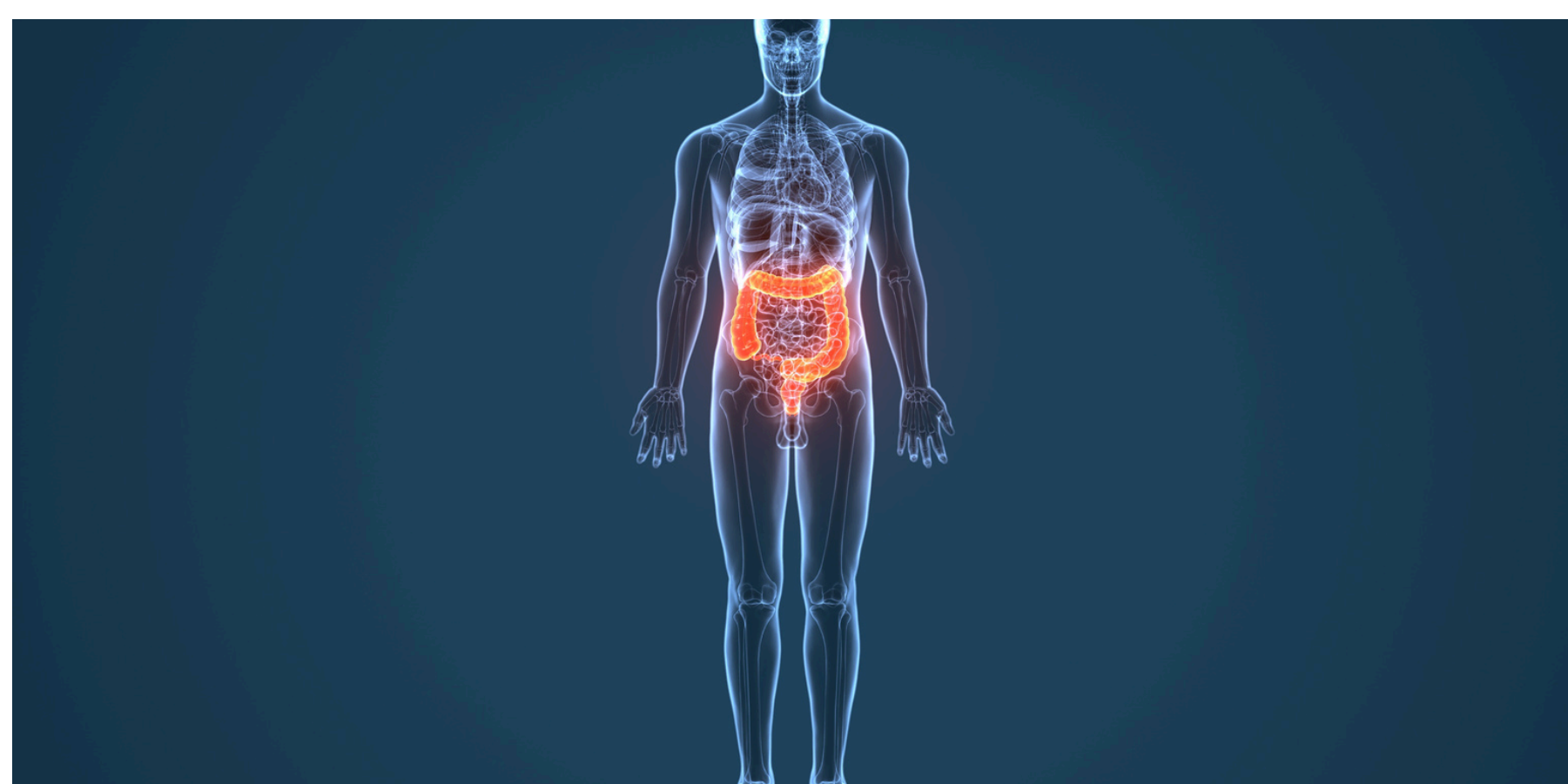
Behzadi, M ; Bideshki, MV ; Ahmadi-Khorram, M ; et al.  
Complementary therapies in medicine. 2024;84:103061

Oxidative stress and inflammation have been reported to be involved in the development of certain non-communicable diseases such as type 2 diabetes, cardiovascular disease, and some cancers.

Chocolate is a rich source of polyphenols, in particular flavonoids, which may have anti-inflammatory properties but studies have shown inconsistent results.

This study aimed to determine the effects of dark chocolate (DC)/cocoa on oxidative stress and inflammation biomarkers in adults. This was a systematic review and meta-analysis of 33 controlled trials looking at dark chocolate or cocoa administration for at least 2-weeks.

The results showed that DC/cocoa resulted in a reduction in oxidative stress according to malondialdehyde and nitric oxide levels. The authors concluded that DC may improve systemic inflammation and oxidative stress.



## SHORT-TERM COCOA SUPPLEMENTATION INFLUENCES MICROBIOTA COMPOSITION AND SERUM MARKERS OF LIPID METABOLISM IN ELITE MALE SOCCER PLAYERS

Mancin, L ; Rollo, I ; Golzato, D ; et al.

International journal of sport nutrition and exercise metabolism. 2024;34(6):349-361

Elite soccer players can compete in up to 50 games per season, sometimes in quick succession, resulting in mental and physical fatigue and poor performance. To combat this, several strategies are adopted including adequate nutritional support. Polyphenols from cocoa have anti-inflammatory properties and may modulate the gut microbiota which favour a beneficial fatty acid status. This study aimed to determine the effects of dark chocolate on gut microbiota composition and polyunsaturated fatty acid status in elite soccer players. This was a randomised controlled trial of 38 elite male soccer players who were given either 30g of 88% cocoa dark chocolate or 30g of white chocolate (control) every day for 4 weeks.

The results showed that compared to control, dark chocolate improved blood lipids by decreasing total cholesterol, low density lipoprotein, and triglycerides, and improving the arachidonic acid:eicosapentaenoic acid ratio. Individuals given dark chocolate also showed a more stable gut microbiota. The authors concluded that dark chocolate consumption may be an effective nutritional strategy in elite sports environments to modulate polyunsaturated fatty acid metabolism.

