

Anti-free Radical Effects of Dark Chocolate in Radical Damage and Constipation

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Damage from free radicals or oxidative stress has been proven as one of the risk factors for chronic diseases such as heart disease, degenerative disease, memory loss, damage due to ultraviolet, cancer and others.¹⁻³ Chocolate contains potential antioxidant 120 per 100 grams. The contents of antioxidants in chocolate are around 4 times higher than green tea and twice that of red wine.¹ Many studies show that chocolate contains bioflavonoids (flavanols, polyphenols, theobromine), Essential fatty acids and other antioxidants such as quercetin and epicatechin as well as amino acids such as phenylethylamine and tryptophan.² The Researchers found that dark chocolate significantly reduced F2-isoprostanes and oxidized LDL cholesterol. Several studies have found that cocoa and dark-chocolate can lower blood pressure, improve circulation, reduce stress, improve mood, improve memory, stimulate brain function, protect the heart, fight cancer cells, improve immune system, and even increase sex drive.^{4,5} In this edition Verawati et al. report their study with the title “Effect of dark chocolate on nitric oxide serum levels and blood pressure in prehypertension subjects”. The study revealed that dark chocolate can increase nitric oxide serum levels and significantly lower blood pressure. This study concluded that dark chocolate is useful for improving circulation.

Constipation is a gastrointestinal disorder that is quite frequently seen in daily practice, defined as a disturbance of the bowel movement where defecation frequency is less than three times per week. Causes of constipation are various and are divided into primary and secondary causes. Lack of water drinking and lack of fiber, vegetables and fruits are among the factors that contribute to the occurrence of constipation.^{6,7} Management of constipation consists

of lifestyle modification (high fiber diet, mobilization and sports etc.) and pharmacological treatment. Dark chocolate does not cause constipation, but only causes upper gastrointestinal motility disorders such as gastroesophageal reflux disease. Several studies have found that dark chocolate may facilitate defecation and improve constipation.^{4,7} Cocoa or dark chocolate does not only contain antioxidants but also contains magnesium in large quantity that play a role in speeding up bowel movements.⁴ In this edition we present the latest national consensus of the management of constipation in Indonesia.⁶

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