

Caffeine is used to make you more alert by stimulating the brain so it can be considered as central nervous system stimulant. Caffeine is found in food and beverages such as coffee, tea, cola, energy and chocolate .Caffeine is also available in prescription or drugs to treat headache or migraine.(1)

Some antioxidants have been shown to reverse the endothelial dysfunction that caused by oxidative stress, especially in patient with coronary artery disease. Caffeine beverages like (coffee and tea), contains antioxidant flavonoids. (2)

Many studies have been done to see if there is a direct link between caffeine, coffee drinking and coronary heart disease.

In 2013, a systematic review was done, 115,993 individuals were included, the result of this review was no effect of caffeine intake on atrial fibrillation (AF) risk factor and exposure to low dose of caffeine may had a benefit on AF .(3)

Lopez-Garcia E and their colleagues in 2006, perform a study with 44,005 men and 84,488 women with no history of cancer or cardiovascular disease. They examined the association between long-term habitual coffee intake and risk of coronary heart disease (CHD). The data did not provide any evidence that coffee intake increases the risk of CHD. (4)

It appears that there is no adverse impact of caffeine intake on CVD risk based on many large observational studies.

There is no recommendation to decrease or quit caffeine intake to reduce CVD risk also consumption of small or moderate amounts of caffeine or caffeinated beverages (≤ 6 cups of coffee per day) is not related with worse cardiovascular disease (CVD) outcomes including mortality, stroke, need for coronary revascularization, or sudden cardiac arrest. (5)

Ding M and their colleagues in 2014, Boston, have performed a meta-analysis of 36 prospective cohort studies, which included nearly 1.3 million individuals, evaluated the effect of coffee intake and CVD risk, they found that this effect was significantly nonlinear. Moderate coffee intake was inversely significantly linked with CVD risk, with the lowest cardiovascular disease risk at three to five cups per day, and there is no relation between heavy coffee intakes with increased CVD risk. (6)

In my conclusion, moderate coffee intake (3 cups per day) doesn't increase the risk of CVD, and it has inverse relationship with heart disease and it may lower the risk of CVD.

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References:

1. Caffeine uses, effects and safety information , accessed on 15/4/2014
<http://www.drugs.com/caffeine.html>
2. Stephen J. Duffy, John F. Keaney Jr, Monika Holbrook, et al. Short- and Long-Term Black Tea Consumption Reverses Endothelial Dysfunction in Patients With Coronary Artery Disease. *Heart American association* .2001; 104: 151-156.
3. Daniel Caldeira, Cristina Martins, Luís Brandão Alves, Hélder Pereira, Joaquim J Ferreira and João Costa. Caffeine Does Not Increase the Risk of Atrial Fibrillation. *Heart*. 2013;99:1383-1389
4. Lopez-Garcia E, van Dam RM, Willett WC, Rimm EB, Manson JE, Stampfer MJ, Rexrode KM and Hu FB. Coffee consumption and coronary heart disease in men and women: a prospective cohort study. *Circulation*. 2006;113:2045-53
5. Cardiovasculareffects of caffeine and caffeinated beverages , accessed on 14/4/2014
http://www.uptodate.com.lib.just.edu.jo/contents/cardiovascular-effects-of-caffeine-and-caffeinated-beverages?source=search_result&search=caffeine+and+heart+disease&selectedTitle=1~150
6. Ding M, Bhupathiraju SN, Satija A, van Dam RM and Hu FB. Long-term coffee consumption and risk of cardiovascular disease: a systematic review and a dose-response meta-analysis of prospective cohort studies. *Circulation*. 2014;129:643-59.