

Turkish Journal of Medical Sciences

Turkish Journal
of
Medical Sciences

The effects of cigarette smoking on serum oxidant status, and cholesterol, homocysteine, folic acid, copper, and zinc levels in university students

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 [Keywords](#)
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Abstract: Aim: To examine the effect of cigarette smoking on serum oxidative damage and oxidant status in university students. Materials and Methods: Subjects were randomly chosen from among Ankara University Faculty of Science students. The study was performed at the Ankara University Faculty of Health Sciences, Department of Nutrition and Dietetics, and the Ankara University Faculty of Medicine, Department of Biochemistry. In all, 44 volunteer (22 smokers and 22 non-smokers) students participated in the study. Malondialdehyde, sensitivity to oxidation (SO), and antioxidant potential (AOP), and total cholesterol, HDL cholesterol, LDL cholesterol, VLDL cholesterol, homocysteine, folic acid, copper, and zinc levels were measured in serum samples. Results: Serum SO levels were significantly higher in smokers than in non-smokers (1.01 ± 0.64 and 0.49 ± 0.14 , respectively). Conclusions: Smoking history could be evidence of oxidative stress (high serum SO concentrations) and an impaired oxidant defense system.

Key Words: Smoking, sensitivity to oxidation, antioxidant potential, cholesterol, homocysteine, folic acid, copper, zinc

Turk J Med Sci 2009; **39**(4): 513-517.

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