

Clinical Research Update

Smoking and Alcohol

**Nutriline Collaborates with Yonsei University
to Study How Alcohol and Smoking Affects
Antioxidant Status and Risk of Heart
Disease in Healthy Korean Men**



AT A GLANCE:

- Study Goal: To evaluate antioxidant nutrient status in healthy Korean men, grouped by their smoking and drinking habits.
- Study Results: Despite similar dietary intakes, the heavy smoker – heavy drinker group had the highest abdominal obesity, plasma homocysteine and lowest blood carotenoid levels.
- Conclusion: These results show how both smoking and drinking interact to lower the body's antioxidant levels.

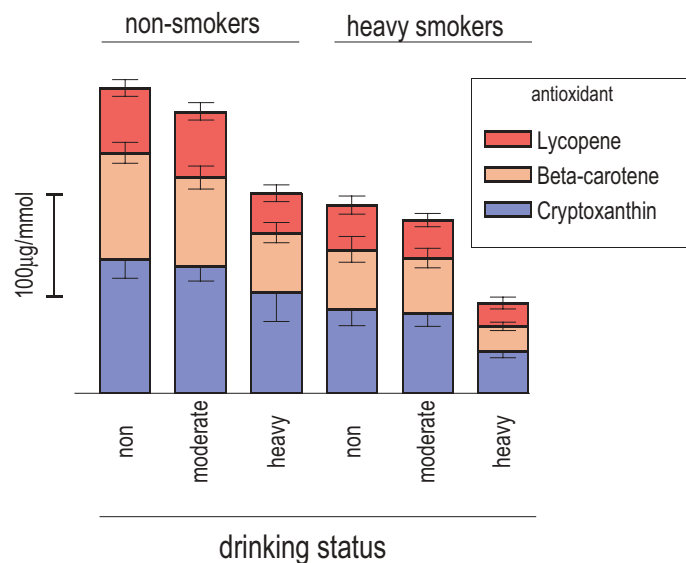


Nutriline funded a study with the prestigious Yonsei University in Seoul, Korea, to evaluate antioxidant nutrient status in 152 healthy Korean men. The men were grouped by their smoking and drinking habits as seen in the table below. A standard drink was measured as one 12-ounce beer, 5 ounces of wine or 1.5 ounces of distilled spirits.

	Heavy smokers (>15 cigarettes/day)	Non-smokers
Heavy drinker (>2 alcoholic drinks/day)	15	14
Moderate drinker (1-2 alcoholic drinks/day)	33	46
Non-drinker	11	33

All six groups had similar dietary intakes. In spite of having a body mass index similar to the other groups', the heavy smokers – heavy drinkers had the highest waist-to-hip ratio. A high waist-to-hip ratio indicates abdominal obesity, which is associated with increased risk for heart disease. This group also showed higher plasma homocysteine levels than the non-smoker – non-drinker group. Heavy smokers also appeared to have lower blood carotenoid levels than non-smokers, regardless of their drinking status. Heavy smokers – heavy drinkers had the lowest carotenoid levels while non-smokers who were non- or moderate drinkers had the highest carotenoid levels. These results, which can also be seen in the graph on the right, show how both smoking and drinking interact to lower the body's antioxidant levels.

Lipid-normalized plasma antioxidant concentrations by smoking and drinking status



This research has been published in the American Journal of Clinical Nutrition (Vol 73, 2001, pp. 68-74) and Nutrition Research (Vol 20, 2000, pp. 1213-1227).

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