

Abstract

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Selenium glycinate supplementation increases blood glutathione peroxidase activities and decreases prostate-specific antigen readings in middle-aged US men

Wenyi Zhang, Elizabeth Joseph, Charles Hitchcock and Robert A. DiSilvestro,

Department of Human Nutrition, The Ohio State University, Columbus, OH 43210-1295, USA
Department of Pathology, College of Medicine, The Ohio State University, Columbus, OH, USA

BACKGROUND: Two concepts are often currently applied to selenium in adult men in the United States: (1) Intake is generally enough to maximize blood glutathione peroxidase activities. (2) In such men, selenium supplementation does not reduce risk of prostate cancer.

METHODS: In contrast to these concepts, 30 healthy middle-aged men were studied to test the following hypothesis: 6-week supplementation of 200 μg of selenium as glycinate can raise activities of 2 blood selenium enzymes and lower a marker of prostate cancer risk.

RESULTS: The hypothesis was confirmed, in that selenium supplementation raised activities for erythrocyte and plasma glutathione peroxidase as well as lowered values for plasma prostate-specific antigen. The enzyme activity increases were not extremely large, but based on a chicken study, changes in blood glutathione peroxidase activities can reflect bigger changes in the prostate. Placebo treatment did not duplicate the selenium effects in 30 other men.

CONCLUSION: In conclusion, this study suggests that US middle-aged men may not typically consume optimal amounts of selenium.

