

# Abstract

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## Comparison of zinc concentrations in blood and seminal plasma and the various sperm parameters between fertile and infertile men.

Chia SE, Ong CN, Chua LH, Ho LM, Tay SK.

Department of Community, Occupational and Family Medicine, the National University of Singapore, Republic of Singapore.

**OBJECTIVE:** The aim of the study was to examine the relationships between concentrations of zinc in blood and seminal plasma and sperm quality among infertile and fertile men.

**METHODS:** One hundred seven male (infertile group) partners of couples who were undergoing investigation for infertility with no known cause for the infertility and 103 men (fertile group) whose wives were pregnant at the time of the study were recruited. The subjects' blood and seminal plasma concentration of zinc were determined by atomic absorption spectroscopy. Except for semen volume, all the other semen parameters for the infertile men were significantly lower than those for the fertile group.

**RESULTS:** The geometric means of the seminal plasma zinc concentration were significantly lower in the infertile group compared with those in the fertile group; 183.6 mg/L (range, 63-499) versus 274.6 mg/L (range, 55-420). There were no significant differences in the geometric means of the blood zinc concentration between the 2 groups. Seminal plasma zinc concentration was significantly correlated with sperm density ( $r = 0.341$ ,  $P < .0001$ ), motility ( $r = 0.253$ ,  $P < .0001$ ), and viability ( $r = 0.286$ ,  $P < .0001$ ).

**CONCLUSION:** On the basis of the findings of this study and those of other reports, zinc may contribute to fertility through its positive effect on spermatogenesis.

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