

EFFECT OF GREEN BEAN SPROUTS EXTRACT ON SPERM QUALITY AMONG MICE EXPOSED WITH MONOSODIUM GLUTAMATE

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ABSTRACT

Background: Infertility is one important component of reproductive health but efforts in resolve infertility are often neglected. The prevalence of infertility in the world currently estimated at 8-12% or about 60-80% million couples in the world do not have children, and this failure is expected to appear about 2 million annually. Monosodium glutamate (MSG) is a food additive that is used for flavoring food, but MSG has the effect of free radicals when usage exceeds normal limits. Green bean sprouts are natural antioxidants because it contains vitamins E and C and zinc. This study aimed to test the effectiveness of green bean sprouts extract in improving sperm quality among mice exposed with MSG.

Subjects and Method: This was a randomized controlled trial. A sample of 30 male mice was selected for this study and randomly divided into 5 groups: (1) negative control (no MSG); (2) positive control (exposed with MSG); (3) low dose; (4) medium dose; (5) high dose of green bean sprouts extract. The dependent variable was sperm quality, including number, shape (morphology), motility, and viability. The independent variable was green bean sprouts extract. Differences in mean between groups were tested by One Way ANOVA and post hoc test.

Results: Differences in mean between groups were statistically significant with sperm quality in the bean sprout groups better than the positive control group.

Conclusion: Green bean sprout extract is effective to improve sperm quality including number, shape (morphology), motility, and viability.

Keywords: green bean sprout extract, sperm, quality, number, shape (morphology), motility, viability.

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