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## Evaluation of reversible contraceptive activities of *Cuminum cyminum* in male albino rats.

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### Source

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### Abstract

#### BACKGROUND:

The aim of the present study was to evaluate the contraceptive efficacy of *Cuminum cyminum* (jeera) seeds in male albino rats.

#### STUDY DESIGN:

*C. cyminum* methanol extract (CcMtE) at dose levels of 100 and 200 mg/rat/day was orally administered to male rats for 60 days. The effect of the treatment on reproductive organs and fertility was investigated. Recovery and toxicity studies were also carried out.

#### RESULTS:

*C. cyminum* methanol extract fed to male rats for 60 days did not cause any alterations in the body weight, whereas the weight of testes, epididymides, seminal vesicles and ventral prostate were significantly reduced ( $p \leq .001$ ). Animals treated with CcMtE showed a marked reduction in sperm density in the cauda epididymis and testes and sperm motility in the cauda epididymis. Reduction in fertility was 69.0% and 76.0% in 100 and 200 mg/rat/day dose levels, respectively. The circulatory hormones were also reduced significantly. Testicular biochemical analysis of protein, sialic acid, glycogen, ascorbic acid and fructose indicated a marked decline, whereas testicular cholesterol content was significantly increased, which showed altered biochemistry of the reproductive organs. After CcMtE treatment, significant decreases ( $p \leq .001$ ) were observed in the number of testicular cells (i.e., spermatogonia, primary spermatocytes [preleptotene and pachytene], secondary spermatocytes and round spermatids); nonsignificant change was observed in the Sertoli cell count. The treatment had no effect on levels of serum protein, cholesterol, bilirubin, glutamic oxaloacetic transaminase (GOT), glutamic pyruvic transaminase (GPT), blood urea and hematological indices.

#### CONCLUSIONS:

The present study shows that *C. cyminum* treatment resulted in the inhibition of spermatogenesis and fertility without producing apparent toxic effects.

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