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**Effects of Pomegranate Seed Oil on the Fertilization Potency of Rat's Sperm.**

[Nikseresht M](http://www.ncbi.nlm.nih.gov/pubmed/?term=Nikseresht%20M%5BAuthor%5D&cauthor=true&cauthor_uid=26816914)1, [Fallahzadeh AR](http://www.ncbi.nlm.nih.gov/pubmed/?term=Fallahzadeh%20AR%5BAuthor%5D&cauthor=true&cauthor_uid=26816914)2, [Toori MA](http://www.ncbi.nlm.nih.gov/pubmed/?term=Toori%20MA%5BAuthor%5D&cauthor=true&cauthor_uid=26816914)3, [Mahmoudi R](http://www.ncbi.nlm.nih.gov/pubmed/?term=Mahmoudi%20R%5BAuthor%5D&cauthor=true&cauthor_uid=26816914)4.

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**Abstract**

**BACKGROUND:**

Pomegranate has been taken great scientific attention in recent years due to its health benefits. Pomegranate seed oil is a rich source of 9-cis, and 11-trans conjugate linolenic acid. The aim of this study was to evaluate the effect of dietary pomegranate seed oil on the fertilization potency of rat's sperm.

**MATERIALS AND METHODS:**

Twenty-four male Wistar rats were divided into four groups. The first group, which served as the control group, received 1 mL of corn oil for seven weeks. Groups II, III, IV served as the experimental groups received 200, 500 and 1000 mg/kg of pomegranate seed oil, for the same period of time respectively. After seven weeks, all of the rats were sacrificed, and their epididymis sperm was collected and added to IVF medium (T6) containing metaphase II oocytes. Almost 21 oocytes had been removed from every female rat oviduct. In this medium, oocyte fertilization, cleavage rates, and embryo development into blastocysts, were evaluated by inverted microscopy.

**RESULTS:**

Levels of LD50 in the oral route in male rats were more than 5000 mg/kg body weight. Our data showed that the rates of fertilization, cleavage and embryo development into blastocysts were higher in the groups that had received 500 and 1000 mg/kg body weight of pomegranate seed oil.

**CONCLUSION:**

This study demonstrated that pomegranate seed oil had a positive effect on the fertilization potency of male rats. These beneficial effects may be useful in assisted reproductive technology.

**KEYWORDS:**

Blastocyst; Embryo development; Fertilization potency; Oocyte

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