

Effect of *Nigella sativa* on reproductive system in experimental menopause rat model

ABSTRACT

Objective: Menopause is the condition when regular menstrual periods cease and may be accompanied by psychological and physical symptoms. The purpose of current study was to determine *Nigella sativa* effects on reproductive system in experimental menopause animal models. **Materials and methods:** A series of experiments was conducted to investigate the effects of different dosages of *N. Sativa* (first experiment), various extracts of *N. Sativa* (second experiment) and some of its ingredients (third experiment) on selected menopausal parameters of ovariectomized (OVX) rats. Forty different OVX rats were equally divided into 5 groups and administered with one of the following treatments for 21 days: conjugated equine estrogen (positive control), distilled water or olive oil (negative control), treatment groups (*N. Sativa* 300, 600 and 1200 mg/kg in the first experiment), (300mg/kg methanol, hexane and SFE extracts of *N. Sativa* in the second experiment) and (linoleic acid 50 mg/kg, gamma linolenic acid 10mg/kg, and thymoquinone 15mg/kg in the third experiment). **Results:** The results demonstrated that *N. sativa* exert estrogenic effect were exhibited through uterotrophic assay and vaginal cell cornification as well as blood estrogen level. Furthermore, low dose *N. Sativa*, methanol extract and linoleic acid had prominent estrogenic like effects which were significantly different from those of control group ($p < 0.05$) in different experiments. **Conclusion:** The finding indicated the probable beneficial role for *N. sativa* in the treatment of postmenopausal symptoms and possibility of using *N. sativa* as an alternative to hormone replacement therapy (HRT) for post menopause in human.

Keyword: Menopause; *Nigella sativa*; Ovariectomized rats