

Potential of *Nymphaea lotus* (Nymphaeaceae) in the Treatment of Metoclopramide-Induced Hyperprolactinemia in Female Wistar Rats

Authors : O. J. Sharaibi, O. T. Ogundipe, O. A. Magbagbeola, M. I. Kazeem, A. J. Afolayan, M. T. Yakubu

Abstract : Hyperprolactinemia is a condition of elevated levels of serum prolactin in humans. It is one of the major causes of female infertility because, excess prolactin inhibits gonadotropin secretion. When gonadotropin is low, follicle stimulating hormone (FSH) and luteinizing hormone (LH) secretions are low and so, do not stimulate gamete production and gonadal steroid synthesis. The aim of this study is to identify and investigate indigenous medicinal plants that can be used in the treatment of hyperprolactinemia. Based on the frequency of mentioning during the ethnobotanical survey, *Nymphaea lotus* L. was selected for studies. The prolactin-lowering potential of aqueous extract of *N. lotus* and its effects on other female reproductive hormones in comparison with bromocriptine was evaluated by inducing hyperprolactinemia with metoclopramide at a dose of 5 mg/kg body weight of the animals for 21 days and then administered various doses of aqueous extract of *N. lotus* for another 21 days. Aqueous extract of *N. lotus* at 50, 100 and 200 mg/kg body weight significantly reduced the serum prolactin levels in female Wistar rats by 40.06, 52.60 and 61.92 % respectively. The extract at 200 mg/kg body weight had higher prolactin-lowering effect (61.92%) than bromocriptine (53.53%). Aqueous extract of *N. lotus* significantly increased ($p < 0.05$) the serum concentrations of FSH, LH and progesterone while estradiol concentrations were reduced. This study shows that *Nymphaea lotus* is a medicinal plant that can be used in the treatment of hyperprolactinemia.

Keywords : hyperprolactinemia, infertility, metoclopramide, *Nymphaea lotus*

Conference Title : ICETM 2016 : International Conference on Ethnomedicine and Traditional Medicine

Conference Location : Amsterdam, Netherlands

Conference Dates : May 12-13, 2016