

Phytochemical Screening and Anti-Hypothyroidism Activity of *Lepidium sativum* Ethanolic Extract

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Abstract : *Lepidium sativum* (Garden Cress) belonging to Brassicaceae family is an annual herb locally known as El-rshad. In Ayurveda it is an important medicinal plant, traditionally used for the treatment of jaundice, liver problems, spleen diseases, gastrointestinal disorders, menstrual problems, fracture, arthritis, inflammatory conditions and for treatment of hypothyroidism. Hypothyroidism is a condition in which the thyroid gland does not produce enough thyroid hormones (Triiodothyronine T3 and Thyroxine T4) which are commonly caused by iodine deficiency. It's divided into primary and secondary hypothyroidism, the primary caused by failure of thyroid function and secondary due to the failure of adequate thyroid-stimulating hormone (TSH) secretion from the pituitary gland or thyroid -releasing hormone (TRH) from the hypothalamus. The disease is most common in women over age 60. The objective regarding this study is to know whether *Lepidium sativum* would affect the level of thyroid hormones. The extract was prepared with 96% ethanol using Soxhlet apparatus. The anti-hypothyroidism activity was tested by using thirty male Wistar rats weighing (100-140 g) were used in the experiment. They were grouping into five groups, Group 1: Normal group= Administered only distilled water. Then 10 mg/kg Propylthiouracil was added to the drinking water of all other groups to induce hypothyroidism. Group 2: Negative control without any treatment; Group 3: Test group= treated with oral administration of 500mg/kg extract; Group 4: treated with oral administration of 250mg/kg of the extract; Group 5: Standard group (positive control) = treated with intraperitoneal Levothyroxine. All rats were incubated for 20 days at animal house with room temperature of proper ventilation provided with standard diet. The result show that the *Lepidium sativum* extract was found to increases the T3 and T4 in the propylthiouracil induced rats with values (0.29 ng/dl T3 and 0.57 U T4) for the 500mg/kg and (0.27 ng/dl T3 and 0.517 U T4) for the 250mg/kg in comparison with standard with values (0.241 ng/dl T3 and 0.516 U T4) so that *Lepidium sativum* can be stimulatory to thyroid function and possess significant anti-hypothyroidism effect with p-values ranges from (0.000006*-0.893472). In conclusion, from results obtained, *Lepidium sativum* plant extract was found to posses anti-hypothyroidism effects so its act as an agent that stimulates thyroid hormone secretion.

Keywords : anti-hypothyroidism, extract, lepidium, sativum

Conference Title : ICBMMP 2018 : International Conference on Botanical Medicine and Medicinal Plants

Conference Location : Sydney, Australia

Conference Dates : January 29-30, 2018