

**Ameliorative effect of ethanolic extract of *Madhuca longifolia* leaves on experimental adjuvant-induced arthritis in rats.**

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**ABSTRACT**

As a folk medicine, *Madhuca longifolia* (Sapotaceae) has been used for the remedy of diverse inflammatory diseases. Nevertheless, the therapeutic effect of *Madhuca* on rheumatoid arthritis remains to be unknown. This work was aimed to investigate the anti-arthritic effect of *Madhuca longifolia* on complete Freund's adjuvant (CFA) – induced arthritis in rats. Arthritis was induced in wistar albino rats by intradermal injection of complete Freund's adjuvant (0.1ml) into the foot pad of right hind paw. Group I rats served as a control group received only saline. Group II animals served as disease control, while the group III, group IV and group V arthritic rats were treated with standard drug diclofenac sodium (10 mg/kg) and EEML (200 and 400 mg/kg) for 21 days after administration of complete Freund's adjuvant. The severity of arthritis was evaluated by symptoms, biochemical, haematological and histopathological assessment. In CFA induced arthritic rats, there was significant increase in paw volume and decrease in body weight increment, whereas EEML treated groups, showed significant reduction in paw volume and normal gain in body weight. The altered haematological and biochemical parameters in the arthritic rats were significantly brought back to near normal by the EEML treatment at the dose of 400 mg/kg body weight. Histopathological studies too confirmed cartilage regeneration and near normal joint in EEML treated rats. It can thus be concluded that ethanolic extract of *Madhuca longifolia* possesses significant antioxidant and anti-arthritic potential. The results of the current investigation concluded, ethanolic extract of *Madhuca longifolia* leaves possess a significant anti-arthritic activity against Complete Freund's adjuvant induced arthritis and justifying its prophylactic role in arthritic condition.