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**LINSEED OIL ENHANCED ANTINOCICEPTIVE POTENCY OF  
GABAPENTIN IN MICE MODELS OF INFLAMMATORY PAIN AND  
PACLITAXEL INDUCED NEUROPATHIC PAIN**

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Linseed oil, a fixed oil separated from Flaxseed (*Linum usitatissimum* L), was evaluated for its potentiating effects on gabapentin induced analgesia in mouse models of inflammatory and neuropathic pain. It was shown that intraperitoneal administration of linseed oil alone or together with gabapentin could significantly inhibit acetic acid-induced writhing response in mice. The writhing inhibition of gabapentin (30 mg/kg, i.p.), linseed oil (0.1 ml/kg, i.p.) alone or co-administrated with each other was 48%, 40% and 75 %, respectively, which in the linseed oil-gabapentin co-treated group was significantly higher than that the positive control group that treated with morphine (0.5 mg/kg, i.p.). In the rat model of paclitaxel induced neuropathic pain a relatively constant analgesic effect of linseed alone or its combination with gabapentin was observed. These investigations suggested that linseed oil could exert a good antinociceptive effect on inflammatory pain and cancer-related neuropathic pain. In confirmation of previous findings, linseed oil probably act through potentiating of GABA mediated mechanisms, but further studies are still needed to elucidate the precise mechanisms and activities of it.