Anti-inflammatory and antinociceptive activity of *Mimosa tenuiflora* (Willd.) Poir from the National Forest Contendas do Sincorá (FLONA), a semi-arid region of Bahia.

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**Keywords:** Anti-inflammatory; antinociception; *Mimosa tenuiflora*.

**Introduction:** The *M. tenuiflora*, popularly known as “Jurema preta”, is used in the folklore medicine for the treatment of diseases involving inflammation and pain mechanisms.

**Experimental part:** This work evaluated the anti-inflammatory and antinociceptive activity *in vivo* of the bark ethanolic extract (BEE) of the plant *M. tenuiflora* from the National Forest Contendas do Sincorá (FLONA), semi-arid region of Bahia, northeastern Brazil. The antinociceptive activity was evaluated by the writhing induced by acetic acid and formalin-induced hypernociception. The anti-inflammatory activities were assessed by the determination of neutrophil migration to the peritoneal cavity and Evans Blue test. Male *Balb*-C mice were used (20–25 g; N=6) and the experiments were approved by the Ethics Committee of the University of Uberaba (protocol 0107/2009). Doses between 50 and 200 mg/kg of BEE were tested and the control group received ethanol 10% (s.c.) and when tested for hypernociception induced by formalin also was used indomethacin and morphine (s.c.). Analysis of variance (ANOVA) followed by the Bonferroni's test, significance p ≤0.05.

**Results/discussion:** The BEE showed statistical significant results for antinociceptive activity by writhing test (100 and 200 mg/kg), causes reduction the number of flinches from 49.83±23.01 to 6.67±6.44 (200 mg/kg) and edema formation (50, 100 and 200 mg/kg) in formalin-induced hypernociception test compared to the control group (p<0.05). The BEE showed also anti-inflammatory activity by inhibiting neutrophil migration at 100 and 200 mg/kg (1.0±0.50 and 1.58±0.69) caused by carrageenan (3.44±1.28) (p <0.05).

**Conclusion:** The BEE of *M. tenuiflora* possesses antinociceptive and anti-inflammatory activities and other studies must be carried out to elucidate the mechanisms involved in these activities and the bioactive compounds.

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