

**TABLE 1**  
**Estimation of Nimesulide in Pharmaceutical Preparations**

Sample (Tablets)	Labelled amount(mg)	Amount obtained (mg)		%Recovery of the proposed method
		Proposed method	Reported method <sup>a</sup>	
1	100	98.93	99.34	98.28
2	100	99.30	98.02	98.96
3	100	99.84	99.67	99.52
4	100	100.47	99.01	99.69
5	100	99.41	98.25	98.83

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### Antiinflammatory Activity of Alcohol Extract of *Justicia procumbens* (Acanthaceae)

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**Alcohol (95%) extract of *Justicia procumbens* has been screened for *in vivo* antiinflammatory activity in albino rats. It revealed promising antiinflammatory activity at a dose of 100 mg/kg body weight.**

**F**OR many centuries, medical treatment has relied to a large extent on the use of plants. *Justicia procumbens* (Acanthaceae) is a common annual herb, world wide in distribution. The plant is slender, stems

diffuse, with many divaricate branches, rootings at the lower nodes, the flowers pale purple, glabrous or pubescent<sup>1</sup>. Various parts of the plant *Justicia procumbens* have been used in Ayurvedic medicine for a number of common

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**Table 1: Data showing the Antiinflammatory Activity of Alcohol (95%) extract of *Justicia procumbens***

Group	Average Weight of Animals (g)	Dose (mg/kg)	Mean value $\pm$ SE of Oedema Volume at different interval			
			1 h	2 h	3 h	4 h
Control (Tween-80, 1%)	162	—	0.260 ( $\pm 0.046$ )	0.273 ( $\pm 0.034$ )	0.270 ( $\pm 0.076$ )	0.230 ( $\pm 0.061$ )
Standard (Phenylbutazone)	170	100	0.183* ( $\pm 0.029$ )	0.186* ( $\pm 0.036$ )	0.166* ( $\pm 0.045$ )	0.133* ( $\pm 0.080$ )
Alcohol (95%) extract	216	100	0.243* ( $\pm 0.051$ )	0.211* ( $\pm 0.057$ )	0.206* ( $\pm 0.039$ )	0.153* ( $\pm 0.02$ )

Each group consisted of 6 animals

\* P < 0.001 when compared with control.

**Table 2 : Antiinflammatory activity of Alcohol (95%) extract of *Justicia procumbens***

Group	Dose (mg/kg)	Percent inhibition of paw volume at different time intervals			
		1 h	2 h	3 h	4 h
Standard (Phenylbutazone)	100	29.50	15.80	25.92	34.78
Alcohol (95%) extract	100	06.42	21.60	23.48	33.30

ailments. It is considered to be laxative, diaphoretic, diuretic, alternative, expectorant, anthelmintic and febrifuge<sup>2,3</sup>. Eventhough there are very few reports on its chemistry<sup>4,6</sup>, so far no systematic study has been reported on its biological activities. Hence, we report the antiinflammatory activity of the alcohol (95%) extract of *Justicia procumbens*.

Whole plant of *Justicia procumbens* was collected from the fields in and around Gulbarga and authenticated at the Herbarium, Department of Botany, Gulbarga University, Gulbarga. The whole plant, including roots, stems, leaves and flowers was shade dried, powdered and subjected to soxhlet extraction (300 g) successively with petroleum ether (60-80°, 1l), chloroform (1l) 95% alcohol(1l) and distilled water (1l).

The extracts were concentrated to dryness in a flash evaporator under reduced pressure and controlled temperature (50-60°). The petroleum ether extract on concentration, yielded brownish yellow gummy solid weighing 2.0g,

while concentration of chloroform, alcohol (95%) and distilled water extracts yielded brownish semisolids weighing 8.0 g, 10.0 g and 13.0 g, respectively. All the extracts were stored in a refrigerator. Doses of the alcohol (95%) extract (100 mg/kg body weight) were prepared in Tween-80 (1%), suspended in distilled water and administered orally to the animals with the help of an intragastric catheter.

Colony bred wistar strain albino rats weighing between 160-220 g were used to assess antiinflammatory activity. All the animals were maintained under controlled standard animal house conditions with access to food and water *ad libitum*.

Determination of antiinflammatory activity is based on plethysmographic measurement of oedema produced by sub-plantar injection of formalin in the hind paw of the rat. The method described by Wilhelmi and Domenjoz<sup>7</sup> as modified by Sisodia and Rao<sup>8</sup> was used for measuring the paw volume.

For this study, albino rats of either sex weighing between 160-220 g were used and divided into 3 groups of six each. The first group served as control and received vehicle only (Tween-80; 1%). Second group of animals received standard phenylbutazone (100 mg/kg body weight, s.c.). And the third group received the alcohol (95%) extract of *Justicia procumbens* at a dose of 100 mg/kg body weight per orally. A mark was made on both the hind paws (right & left) just beyond tibio-tarsal junction, so that everytime paw could be dipped in the mercury column upto the mark to ensure consistent paw volume. After 30 minutes, 0.1 ml of formalin (1% w/v) was injected into the planter region of left paw of the rats of all the above groups. The right paw served as reference to non-inflamed paw for comparison. From this onwards, the foot volume was measured both in control as well as in treated animals including standard animals at 1,2,3 and 4 hours of interval. The percent increase in oedema over the initial reading was also calculated. This increase in oedema in animals treated with standard drugs and alcohol (95%) extract of *Justicia procumbens* were compared with increase in oedema of untreated control animals at the corresponding intervals on 1,2,3 and 4 hours. Thus, the percent inhibition of oedema at known intervals in treated animals was used for the purpose of calculating the percent inhibition of oedema of the control. similarly, percent inhibition of oedema for standard and alcohol (95%) extract of *Justicia*

*procumbens* was calculated. The results of anti-inflammatory activity are given in Table 1 and 2.

The above studies revealed that, the alcohol (95%) extract of *Justicia procumbens* has showed anti-inflammatory activity. The maximum activity was observed during 4th hour the results are highly significant ( $p < 0.001$ ) and are comparable to the standard phenylbutazone. The anti-inflammatory activity of alcohol (95%) extract of *Justicia procumbens* may be due to the presence of steroids and flavonoids in this extract as evident by the preliminary phytochemical tests of this extract.

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