

## Anti-Nociceptive Effect of the Methanol Extract of Fruit Pulp of Plant *Feronia Elephantum Corr*

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## Abstract

## Original Research Article

To investigate the anti-nociceptive effect of fruit pulp of *Feronia elephantum Corr.* in mice. The analgesic effect of the methanolic extract of fruit pulp of *Feronia elephantum corr.* were studied Acetic acid induced writhing test in mice. The methanolic extract exhibited anti-nociceptive activity against the acetic acid writhing test. The analgesic effect of methanolic extract might be through peripheral mechanism and thus justified its folkloric use in the treatment of rheumatism pain.

**Keywords:** Anti-Nociceptive, *Feronia elephantum Corr.*

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## INTRODUCTION

The numbers of indigenous plants have been described in the literature to Possess anti-nociceptive activity. The fruit pulp of *Feronia elephantum corr.* (Rutaceae) commonly know as Kavata, have been claimed to be useful in treatment of Stomach pain [1, 2]. The plant has been reported to contain flavonoids, glycosides, triterpenoids, essential oils, fixed oils and stigmasterol [3-6]. A decoction of fruit pulp (sherbet/kadha) administered orally before breakfast has been advocated by local traditional medicine practitioner. The evolution of the fruit pulp of *Feronia elephantum corr.* in treatment of stomach pain has not been reported in laboratory animal. The Paucity of scientific report prompted us to undertake the present study.

## MATERIAL AND METHOD

### Preparation of plant material

Fruit pulp of *Feronia elephantum corr.*, were collected from local market and Authenticated by Pharmacognosy department of Invertis University. The dried material was powered using pestle and mortar 500g of powdered material was extracted with 2L of methanol using soxhlet extractor and solvent was evaporated under reduced pressure using a rotatory evaporator. This gives a yield of 9.7% w/w. The extract was freshly prepared to desire concentration with distilled water before use. Parallel control experiments

were done to correct possible effect caused by vehicle alone. Preliminary phytochemical screenings were carried out using standard procedure [7].

### Acute toxicity studies

Toxicity studies were carried out as per ref. 'up and down' or stair case methods using Swiss albino mice [8].

### Anti-nociceptive Activity

The Anti-nociceptive Activity were conducted on male Swiss albino adult mice (28-34 gm) used for study they were kept under standard diet and supplied with water at libitum

### Acetic acid induced writhing test

The method described by Koster *et al.* [9] and Freire [10] were used .Thirty mice were divided in 5 Groups (n=6). Group-I Served as normal saline (10mg/kg) Group 2, 3 and 4 received the extracts (50, 100, 200 mg/kg I.P) respectively, while Group-5 received Acetyl Salicylic acid (ASA 100 mg/kg P.O) [11]. Thirty minutes after treatment each mouse were given 10mg/kg of 0.7% aqueous solution of Acetic acid injected intraperitoneally. Each mouse was than placed in Plastic transparent observation cage and no number of abdominal constriction were cumulatively counted for 5-15 minutes result were expressed as % inhibition of analgesia[12].

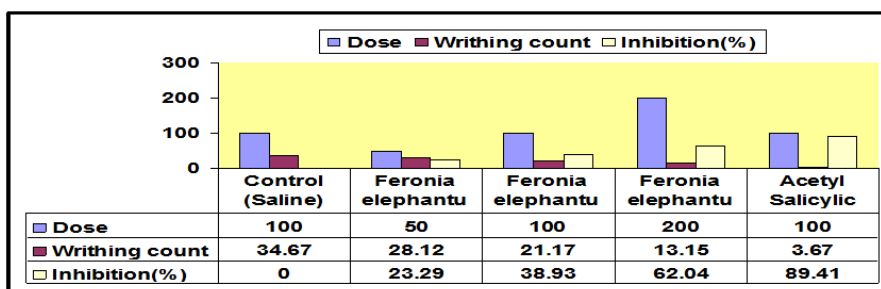
## RESULT

### Acetic acid induced writhing test

**Table-1: The effect of methanolic extract of *Feronia elephantum* on Acetic acid induced writhing in mice**

| Treatments            | Dose          | Writhing count | Inhibition (%) |
|-----------------------|---------------|----------------|----------------|
| Control (Saline)      | 10 ml/kg i.p  | 34.67±3.52     |                |
| Feronia elephantum    | 50 ml/kg i.p  | 28.12±3.13     | 23.29          |
| Feronia elephantum    | 100 ml/kg i.p | 21.17±2.56     | 38.93          |
| Feronia elephantum    | 200 ml/kg i.p | 13.16±1.25     | 62.04          |
| Acetyl Salicylic acid | 100 ml/kg p.o | 3.67±0.47      | 89.41          |

Value are mean ± SEM (n=6)



**Fig-1: The effect of methanolic extract of *Feronia elephantum* on Acetic acid induced writhing in mice**

## DISCUSSION

The methanolic extract of *Feronia elephantum* fruit pulp gave positive test for triterpenoids, Sterols, Essential oils and flavonoids. The extract caused significance inhibition of acetic acid induced Writhing in mice by 23.29, 38.93, and 62.04 at the dose of 50,100,200 mg/kg respectively. When compared to the saline control. Acetyl Salicylic acid caused an 89.41% inhibition in same study (in Table-1).

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