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Research Article

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Analgesic activity of aqueous extract of *Vernonia hymenolepis* (A. Rich) a traditional medicine plant used in Kenya for toothache

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Abstract

The main aim of the study was to ascertain the analgesic properties of *Vernonia hymenolepis* leaves to validate its use for the treatment of toothache. The plant is widely used as a traditional herb by communities in Trans Nzoia County, Kenya for treatment of various infections including toothache. However its efficacy has not been established. Leaves of the plant were collected from Trans Nzoia County, Kenya and identified at University of Nairobi Herbarium. An aqueous extraction of leaves was prepared. Formalin test was carried out using 30 male albino wister mice to determine antinociceptive effect and the painful response at 0 – 10 min (Early) and 15 – 60 min (late phase). Acetylsalicylate at dose of 100 mg/Kg was used as a positive control. The dose significantly ($p < 0.05$) reduced the time spent in pain behavior in both phases hence indicating that the plant posses antinociceptive activity. It's concluded that *Vernonia hymenolepis* possesses analgesic property.

Keywords: *Vernonia hymenolepis*, Analgesic, Anti-inflammatory, Antinociceptive.

Introduction

Vernonia hymenolepis belongs to the family of Asteraceae and has about 1000 species of forbs and shrubs. Some species are known as ironweed. It has numerous distinct subgenera and subsections.¹ It is an ever green shrub that grows up to 5 meters high. The stem has spines and its green in color, the leaves are leathery pubescent and tomentose beneath. The pyllaries are white, pink or purple while the flowers are mauve white. It is a leafy indigenous vegetable that is commonly cultivated by farmers in Nigeria and Cameroon.² *Vernonia hymenolepis* also occurs along rivers, roadsides, in forest margins, old cultivation areas, in bushed grassland and also in montane forest.

Its leaves are consumed fresh and in dry form as garnish, potherb or salad. It is used to cure pneumonia, hypertension and also to heal and stop bleeding wounds. Juice from its crashed leaves is used to treat diarrhea in babies and jaundice.³ Studies have been documented on its use in treatment of malaria, typhoid, Amoebiasis and abdominal conditions like constipation in communities in Kenya.⁴ It's widely used traditionally by Herbalist and communities in Trans Nzoia County, Kenya in treatment of toothache. However, the pain alleviating properties of these species have not been explored and documented. The aim of this study was to ascertain and validate the use of *Vernonia hymenolepis* extract for antinociceptive activity using formalin test.