ANTITRYPANOSOMA EFFECT OF METHANOL FRUIT POD EXTRACT OF ACACIA NILOTICA (Linn) IN ACUTE TRYPANOSOMA BRUCEI INFECTION IN WISTAR RATS.

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INTRODUCTION

- Definition of Trypanosomosis
- African animal trypanosomosis (AAT)
- Virulence of T. brucei brucei
- Susceptible animals and clinical signs.
Drug resistance and toxicity.

Lack of interest by the pharmaceutical industry to invest into research and development of new antitrypanosomal drugs.

Effect on the economy
Justification of the study

- Trypanosomosis is a disease for which both humans and animals whether economic, social or wild stand the Risk of epidemics

- Current trend in research

- The present study will explore the antitrypanosomal potential of one of the abundant indigenous plant *Acacia nilotica* with the hope of finding alternative treatment of trypanosomosis.
General Aim of the Study

To determine the effect of the antitrypanosomal effect of methanol fruit pod extract of *Acacia nilotica* (*Linn*) in acute *Trypanosoma brucei* infection in Wistar rats.
Objective of the Study

- determine the effect of the methanol extract of the fruit pods of *Acacia nilotica* on parasitemia in experimental *Trypanosoma brucei* infection in Wistar rats.

- determine the effect of the methanol extract of the fruit pod of *Acacia nilotica* on the PCV in Wistar rats experimentally infected with *Trypanosoma brucei*.

- determine the effect of the methanol extract of the fruit pods of *Acacia nilotica* on survival rate in experimental *Trypanosoma brucei* infection in Wistar rats.
MATERIALS AND METHODS

Collection and identification of the plant material and extraction
Phytochemical Analysis of the Extract
Determination of the LD$_{50}$ of the extract
Test organism
Plate I: *Trypanosoma brucei brucei* on thin blood smear with arrows pointing to the parasite.
Plate II: Wistar rats in a cage
**Plate III**: *Acacia nilotica* plant with fruit pods
Materials and method cont...

- Experimental animals and Inoculation with the Parasite.
- Treatment of the Experimental Infected Rats
- Blood Sample Collection and Analysis
- Determination of survival rate
- Statistical Analysis
## RESULTS AND DISCUSSION

<table>
<thead>
<tr>
<th>Active Ingredient</th>
<th>Pod Extract</th>
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<tr>
<td>Carbohydrate</td>
<td>+</td>
</tr>
<tr>
<td>Anthracene derivatives</td>
<td>+</td>
</tr>
<tr>
<td>Steroids and Triterpenes</td>
<td>+</td>
</tr>
<tr>
<td>Cardiac glycosides</td>
<td>+</td>
</tr>
<tr>
<td>Saponic glycosides</td>
<td>+</td>
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<tr>
<td>Flavonoids</td>
<td>+</td>
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<tr>
<td>Tannin</td>
<td>+</td>
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<tr>
<td>Alkaloid</td>
<td>+</td>
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</tbody>
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Key: + = Present

**Table 1:** Qualitative phytochemical analysis of methanol fruit pod extract of *Acacia nolitica.*
Determination of LD$_{50}$:
LD$_{50}$ was determined to be $\geq 5000$ mg/kg since no mortality was recorded on administration of the highest dose.
Figure 1: Parasitemia values of *T. brucei* infected rats treated with methanol fruit pod extract of *Acacia nilotica* and the untreated group.
Figure 2: Changes in packed cell volume values of rats infected with isolates of *Trypanosoma brucei brucei* and treated with fruit pod extract of *Acacia nilotica*. 

P > 0.05
Figure 4: Effect of *Acacia nilotica* fruit pod extract on survival period in the extract treated group.
CONCLUSION

- The methanol extract of the fruit pod of *Acacia nilotica* at the dose rate (500mg/kg) used had no effect on the parasitemia nor the packed cell volume of the infected rats.

- But might have contributed in prolonging the survival period of the infected treated rats.
We recommend that more studies be carried out using the extract at higher doses to ascertain the dose that may elicit antitrypanosomonal effect on experimental *Trypanosoma brucei brucei* infection in Wistar rats.
ACKNOWLEDGEMENTS

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THANK YOU FOR LISTENING