



Faculty Of Natural Sciences,  
Ibrahim Badamasi Babangida University, Lapai

# 2<sup>nd</sup> FACULTY OF NATURAL SCIENCES ANNUAL CONFERENCE

## (FONSAC 2021)



Theme: \_\_\_\_\_

**CATALYZING NATIONAL ECONOMIC  
RECOVERY IN POST-COVID-19  
ERA THROUGH INNOVATIVE  
RESEARCH**

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**Book of Abstract**

**NPD020: PHYTOCHEMICAL ANALYSIS AND *IN VIVO* ANTITRYPANOSOMAL ACTIVITY OF *ALLIUM SATIVUM* (GARLIC) BULB AQUEOUS EXTRACT IN *TRYPANOSOMA CONGOLENSE* INFECTED MICE**

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**ABSTRACT**

African Trypanosomiasis is a serious problem to the African continent including Nigeria. Trypanosomes are causative agent of trypanosomiasis, which is transmitted by tsetse fly. The main purpose of this research was to ascertain the phytochemical constituents and *in vivo* antitrypanosomal activity of aqueous extract of *A. sativum* (garlic bulb) on *Trypanosoma congolense* infected mice. Phytochemical screenings were analyzed using spectrophotometric method. The acute toxicity study of *A. sativum* was also determined using Lorke's method. The effects of the garlic extract in trypanosome infected mice were observed for 16 days by monitoring changes in parasitemia, packed cell volume and weight of the mice. However, the quantitative phytochemical screening showed that, phenol had the highest (291.88±6.12 mg/100g) concentration while alkaloid had the lowest (13.66±0.03 mg/100g) concentration. The garlic extract did not have acute toxicity on the uninfected animals and the lethal dose (LD<sub>50</sub>) was greater than 5000 mg/kg body weight. *In vivo* antitrypanosomal studies revealed that infected mice treated with aqueous extract of *A. sativum* at different concentrations (100, 250 and 500 mg/kg/body weight) had a significant dose dependent decrease in level of parasitemia thereby extending the survival days of the mice compared to control (with promising values recorded in 500 mg/kg bw). Assessment of haematological parameters revealed significantly different values especially for the RBC, PCV and Hb which were significantly higher in 500 mg/kg bw than the control group. In conclusion, aqueous extract of *A. sativum* exhibited antitrypanosomal activities and ameliorative effect on *Trypanosoma congolense* induced anemia.

Keywords: *Allium sativum*, *Trypanosoma congolense*, Trypanosomiasis.