



Comparative studies of phytonutrients content and therapeutic potential of fruits parts of *Dialium guineense* Willd (Fabaceae) and *Ziziphus mauritiana* Lam. (Rhamnaceae) used in traditional pediatric in Burkina Faso

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ABSTRACT

Objective: The objective of the present study was to determine the phytonutrients content and selected biological activities of fruit parts of *Dialium guineense* commonly known as velvet tamarind and *Ziziphus mauritiana* called jujube tree used in the management of childhood diseases.

Methodology and Results: Phytochemical components were determined by specific reagents and biological activities by antiradical and antibacterial test. The fruit pulp of *Ziziphus mauritiana* had the best antioxidant activity ($IC_{50} = 0.27$ mg/mL) due to its high contents ($p < 0.05$) of total phenolic compounds (31.18 ± 0.06 mg GAE/g), flavonoids (0.73 ± 0.50 mg RE /g), hydrolysable tannins (11.37 ± 0.05 mg TAE/g) and condensed tannins (9.86 ± 0.30 mg CE/g). It also exhibited the highest contents of β -carotene (72 ± 0.01 mg/100g) and macroelements Na (12 ± 0.00 mg/100g), K (605 ± 0.20 mg/100g). On the other hand, the fruit pulp of *Dialium guineense* had the best contents of vitamin C (36 ± 0.07 mg/100g), vitamin E (0.109 ± 0.07 mg/100g) and microelements (Fe, Zn) with 8.00 ± 0.01 mg/100g and 1.10 ± 0.02 mg/100g respectively. The fruits pulp of these two species showed antibacterial activity against *E. coli* with the best minimum inhibitory concentration (MIC) of 3.12 mg/mL

Conclusions and application of results: Recommendations of enhancement and promotion of these two fruit species could constitute important sources for the development of new nutraceuticals and phytomedicines in the prevention and treatment of childhood diseases.

Keywords: Childhood diseases, *Dialium guineense*, *Ziziphus mauritiana*, Nutraceuticals.