



Khaya anthotheca (Welw.) C.DC (Meliaceae) Decoction: Towards a Solution to Nervous System Disorders

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In the world, 75 - 80% of developing countries population, mostly in Africa, refer to traditional healers and use traditional medicine for their health care [1,2]. Traditional medicine can represent an alternative to modern medicine [3]. Plants remain the main ingredients of modern drugs and [4]. In many countries in Africa, as well as in Cameroon, traditional medicines still remain a major source for preventing, diagnosing and/or treating neurological disorders [3].

The burden of the neurological disorders is social and economic. It is higher in low income and developing countries than developed countries with about 6.8 million of death each year [5]. The global burden of neurological disorders is evaluated at 6.3% of diseases in the world. The World Health Organization report that the disability-adjusted life-years of neurological disorders in 2005 were estimate at 92 million and were projected to arrive to 103 million in 2030 [6].

In Cameroon, *Khaya anthotheca* (*K. anthotheca*) decoction is used in traditional medicine to manage anxiety in menopausal women [7]. In our lab group, we demonstrated that this extract plant is endowed with different pharmacological effect in the nervous system.

- The extract showed estrogenic and anxiolytic properties in acute and sub-acute administration [7,8].
- It is endowed with ameliorative effects in vanadium-induced anxiety, memory loss, and neuronal necrosis [9].

- The extract induced neuroprotection against estrogen depletion-induced neurodegeneration [10].
- *Khaya anthotheca* extract is endowed with anxiolytic, anti-depressive and antioxidant properties in ovariectomized rats exposed to repeated variable stress; and improve motor coordination in the same conditions [11].
 - The *Khaya anthotheca* aqueous extract contains polyphenols such as flavonoids and it is non-toxic after a sub-acute treatment [8,10].

These studies provide valuable insights into potential therapeutic applications of *K. anthotheca* extract on nervous system. However more studies are still needed to elucidate its multipotential therapeutic effects. In perspectives, it is important to evaluate the effects of *Khaya anthotheca* decoction in others models of nervous system disorders such as stroke, dementia, epilepsy, pain, brain tumors, brain trauma, neuroinfections; elucidate the mechanisms of action of bioactive extract plants; and isolated compounds.

Bibliography

1. World Health Organisation. "Médecine traditionnelle et couverture des soins de santé". OMS, Genève, Suisse (1983): 335.
2. World Health Organisation. "Traditional medicine". Fact sheet No 134. Geneva (2003).

3. Zemo GF, *et al.* "Neurological disorders: The use of traditional medicine in Cameroon". *Traditional Medicine and Modern Medicine* 7 (2024): 1-18.
4. Susan S. "Importance and effectiveness of herbal medicines". *Journal of Pharmacognosy and Phytochemistry* 8 (2019): 354-357.
5. Maha ZR, *et al.* "Neurological Disorders: cause and treatment strategies". *International Journal of Public Mental Health and Neurosciences* 5(2018): 32-40.
6. World Health Organisation. "Neurological disorders: Public Health Challenges". Switzerland: World Health Organisation (2006).
7. Ketcha WGJM, *et al.* "Estrogenic and anxiolytic effects of the decoction of stem bark of *Khaya anthotheca* (Welw.) C.DC (Meliaceae) in ovariectomised Wistar rats". *International Journal of Phytomedicine*. 9(2017): 241-252.
8. Zemo GF, *et al.* "Anxiolytic, estrogenic and non-toxic effects of sub-acute treatment with *Khaya anthotheca* (Welw.) C.DC (Meliaceae) decoction in ovariectomized Wistar rats". *Journal of Biological Pharmaceutical and Chemical Research* 10 (2023): 39-55.
9. Zemo GF, *et al.* "Ameliorative effects of the aqueous extract of *Khaya anthotheca* (Welw.) C.DC (Meliaceae) in vanadium induced anxiety, memory loss and pathologies in the brain and ovary of mice". *Journal of Ethnopharmacology* (2021).
10. Zemo GF, *et al.* "Neuroprotective effects of *Khaya anthotheca* (Welw.) C.DC (Meliaceae) decoction on neurodegeneration induced by estrogen depletion in rats". *Journal of Experimental Pathology* 2 (2021): 174-181.
11. Zemo GF, *et al.* "Effects of *Khaya anthotheca* against behavioral disorders and oxidative stress induced by repeated variable stress". *Exploration of Drug Science* 3 (2025): 1008127.