



PHYTOCHEMICAL SCREENING AND FREE RADICAL SCAVENGING ACTIVITY OF THE AQUEOUS EXTRACT OF *JUGLANS REGIA* (WALNUTS)

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ABSTRACT

The world of plants is full of resources and virtues from which people take not only his food but also active substances that often provide a benefit to his body. This research aimed to the valorization of a medicinal plant known by their traditional use; *Juglans regia* L (*Juglandaceae*) by phytochemical screening of bioactive compounds and evaluation of the antioxidant activity of leaves and bark aqueous extracts. The extraction yield indicated that the aqueous extract decocted from the leaves presented high yield ($28.23 \pm 0.63\%$) compared to the other extracts. Qualitative phytochemical tests demonstrated a richness of extracts in bioactive compounds by the presence of total and Gallic tannins, saponosids and coumarins in all extracts. Quantitative determination revealed that total phenolic content in the aqueous leaf decoction extract (553 mg GAE / g) was higher than in the other extracts. For the determination of flavonoids, the aqueous decoction extract of the leaves and even the bark was found to be the richest (254 and 226 mg QE/g respectively). The results of the antioxidant activity showed that the totality of the extracts possess advantageous antiradical properties, in particular the aqueous extract of the bark which has an IC₅₀ value (0.02 mg / ml) close to that of ascorbic acid (0.019 mg / ml). The study of the antioxidant activity of extracts of *Juglans regia* L. suggests that this plant represents a natural source of chemical molecules that has very important biological activities.
