

عنوان مقاله:

(Components and acute toxicity of nanoherbal haramonting (Rhodomyrtus tomentosa)

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خلاصه مقاله:

Introduction: Rhodomyrtus tomentosa (haramonting), a typical plant of North Sumatera, Indonesia, contains important medicinal ingredients. Nano sized drugs have high loading capacities and can be given at high concentrations. This study aimed to determine the components and toxicity of nanoherbal haramonting. It also aimed to determine the effect of nanoherbal haramonting on the histology of the liver, kidneys, lungs, heart and brain. Methods: High-energy milling was performed to produce nanoherbal haramonting. Thin-layer chromatography was utilised to determine the chemical components of the nanoherb. Antioxidant tests were performed by using the ۱,۱-diphenyl-۲-picrylhydrazil method. The three-stage of lethal dose ۵۰ (LD۵۰) which comprised the dose orientation test, preliminary test and actual phase test/LD۵۰ determination, and the Thomson-Weil formula was applied to measure the lethal concentration ۵۰ (LC۵۰) of nanoherbal haramonting. Organs were collected for histological investigation after ۱۴ days of the lethality test. Results: Nanoherbal haramonting had an average diameter distribution of $۶۰۰.۱ \text{ nm} \pm ۱۳۵.۸$. It contained flavonoids, steroids, glycosides, saponins and tannins. Its LC۵۰ and LD۵۰ values were ۲۹۶۱.۵۳۵ ppm and $۱۰.۴ \pm ۰.۱۳۵ \text{ mg/kg BW}$, respectively. The histology of the heart, kidney, lungs, heart and brain were changed and affected by nanoherbal haramonting treatment at each dose level. Conclusion: Nanoherbal haramonting has strong antioxidative activity and small size, can be effectively used as medicine in the future because it contains secondary metabolite compounds that can be developed as drugs. However, it has mild toxicity

کلمات کلیدی:

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