Chemical Composition And In Vitro Antimicrobial And Antioxidant Activities of Essential Oil And Seed Oil Of Laurus Nobilis L.

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The in vitro antimicrobial and antioxidant activities of the essential oil, seed oil, and methanolic extract of seed oil obtained from Laurus nobilis L. (Lauraceae) were detected. While the antimicrobial activities of essential oil were determined by disc diffusion method, the antimicrobial activities of the other extracts were determined by agar well method, on the gram positive and gram negative bacteria, and one fungus. The methanolic extracts of seed oil exhibited more effective antibacterial activity on the bacteria comparing to the others. Both seed oil and methanolic extract of seed oil of Laurus nobilis L. showed the same antifungal activity on the fungus, Candida albicans ATCC 10231. GC-MS analyses of the essential oil resulted in the identification of 25 compounds. 1.8-Cineol (44.72%) and α-Terpinyl acetate (12.95%), Sabinene (12.82%) were the main components. The possible antioxidant activities of the essential oil and methanolic extract of seed oil of Laurus nobilis L. were performed with two complementary test systems, namely 2,2-diphenyl-l-picrylhydrazyl (DPPH) and β-carotene-linoleic acid assays. The 50% (IC₅₀) inhibition activity of the essential oil on the free radical DPPH was determined as 94.655 mg/mL, whereas IC₅₀ value of methanolic extract of seed oil was found changeable from one work to others. In the case of the linoleic acid system, oxidation of linoleic acid was inhibited by essential oil and methanolic extract of seed oil, which showed 64.28% and 88.76% inhibition, respectively. The inhibition of the methanolic extract of seed oil is too close the synthetic antioxidant BHT, 92.46% inhibition.