

Title Chemical composition and anti-*Helicobacter pylori* activity of the essential oil of *Smyrniium cordifolium*

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Abstract

Essential oil is composed of a wide range of bioactive chemical compounds. They traditionally found application as flavor, fragrance and Medical Aroma. The genus *Smymium* belongs to the Compositae family (1). *Smyrniium cordifolium* (as a member of this genus) widely distributed in province of the west part of Iran. In the folk medicines of the west of Iran, this herb is used as spices and flavour. The gastric pathogen, *Helicobacter pylori*, a gram negative microaerophilic bacterium has been recognized as the main cause of chronic gastritis and also a risk factor for gastric cancer. The chemical composition of the essential oil obtained by hydrodistillation of *Smymium cordifolium* was analyzed using Gas chromatography-Mass spectrometry (GC-MS). 32 compounds were identified, representing 99.77% of the total components, trisulfide dimethyl (23.54%), thymol (19.8%), carvacrol (4.46%), Bomyacetate (3.15%), were found to be the major constituents. the bactriostatic activity of the essential oil against clinical isolates of *Helicobacter pylori* was determined using micro dilution broth susceptibility assay and agar dilution method. the bacteria was sensitive to the essential oil, and the minimum inhibition concentration (MIC) was 1.55 mg/ml.