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The chemical assessment of seed essence of twonative medicinal plants of the Yazd province (*Bunium persicum*, *Cuminum cyminum*) and the comparison of their antioxidant properties

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Backgrounds & Objectives: Medicinal plants are valuable natural resources which nowadays known as the safe prematerials for drug industries in the advanced countries. Iran has one of the most important and diverse natural resources of medicinal plants in the world. Because of this, we selected two native medicinal plants (*Bunium persicum* and *Cuminum cyminum*) of Yazd province for this research to assess components and evaluate antioxidant properties of the seed essences.

Materials & Methods: This study was experimental-lab trialand all experiments were performed in triplicate. The seeds of 2 native plants were collected from natural habitats in the Yazd province and the essence was extracted by hydro-distillation and was fractionated by GC/MS method and the compounds were identified. The DPPH test was used for estimating antioxidant properties and the Follin-Ciocalteu method was used for estimating quantity of phenolic compounds.

Results: The analysis shows the main components of *Cuminum cyminum* were propanal, 1-phenyl-1-butanol and benzene methanol. For *Bunium persicum*, the results revealed the –γ Terpinene had the highest percentage of the essence. Also, the antioxidant test showed high antioxidant properties from the 2 native medicinal plants especially *Cuminum cyminum*. The IC50 of *Bunium persicum* and *Cuminum cyminum* were 2.85 and 0.711 $\mu g.mg^{-1}$ and the phenolic component percentage were 117.09 and 162.62 $mg.g^{-1}$, respectively. The genetic resources of these 2 native medicinal plants of Yazd province were very noticeable for breeding or conservation programs.

Conclusion: The results of evaluating antioxidant properties of these 2 native medicinal plants of Yazd province showed *Cuminum cyminum* has the higher antioxidant properties than *Bunium persicum*. The content of phenolic components is in *Bunium persicum* higher than *Cuminum cyminum*.

Biography

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