

## Investigation the Antioxidant and the Antimicrobial Effects of Aqueous and Ethanolic Extract of Astragals. on In-vitro Indicator Microorganisms

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### Abstract Presener:

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**Abstract:** Extraction was performed by using maceration method for dried flower sample. Then, the antimicrobial effect of aqueous and ethanolic extracts on eight bacterial sp. and two fungi were tested using disc diffusion method. The antioxidant effect was also determined through ferric reducing potency and phosphor molybdenum followed by total phenol determination.

**Introduction:** The Astragals. is high in certain antioxidants. The fruit is noted for its high level of vitamin C, and is used to make syrup, tea, and marmalade. It has been grown or encouraged in the wild for the production of vitamin C from its fruit (often as rose-hip syrup), especially during conditions of scarcity or during wartime. The species has also been introduced to other temperate latitudes. During World War II in the United States, *Rosa canina* was planted in victory gardens, and can still be found growing throughout the country, including roadsides and in wet, sandy areas along the coastlines.

**Methods and Results:** Extraction was performed by using maceration method for dried flower sample. Then, the antimicrobial effect of aqueous and ethanolic extracts on eight bacterial sp. and two fungi were tested using disc diffusion method. The antioxidant effect was also determined through ferric reducing potency and phosphomolybdenum followed by total phenol determination. Finally, partial detection of bioactive compounds was conducted using chemical and calorimetric methods. The results showed that ethanolic extract had the most antimicrobial effect; while aqueous extract weakly affected bacterial and fungal strains. Antioxidant experiments also revealed that ethanol extract had more antioxidant effects than aqueous extract. The most content of total phenolic compounds was found in ethanol extract. The results of the plant chemical determination showed the presence of flavonoids, alkaloids, anthraquinones, tannins, glycosides, and reducing sugars.

**Conclusions:** Considering that few reports about the therapeutic effect of Astragals. has been published, this study could be considered as a valuable report about the important role of this plant on preventing infections and neutralizing oxidant agents.

**Key words:** Astragals, Antioxidant effect, Antimicrobial effect, Aqueous extract, Ethanol extract