

## **Assessment of Antioxidant Activities in Roots of Miswak (*Salvadora persica*) Plants Grown at Two Different Locations in Saudi Arabia**

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**Abstract :** Traditionally, in Middle Eastern countries, many cultures use chewing sticks of arak for medicinal purposes especially, for oral cleanliness care. It was used by Muslims for the treatment of teeth and highly recommended to be used by muslims during the whole day. Therefore, the present work aimed to determine the total phenolic content and total flavonoids in two Miswak extracts obtained from arak roots collected from two different localities in Saudi Arabia. They were extracted with aqueous ethanol (80%) and used to estimate in vitro their antioxidative abilities. The new findings showed that the two tested extracts contained significantly different amounts of both total phenolic content and total flavonoids. According to the increase of total phenolic contents and total flavonoids obtained from the two extracts, Miswak collected from the southern region was found to contain more contents than those collected from the middle region. The results of antioxidant activities of Miswak root extract obtained by using different in vitro methods were varied depending on the technique used. According to the malondialdehyde (MDA) method, hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>) scavenging ability and 1,1-diphenyl-2-picrylhydrazyl (DPPH) methods, the two Miswak extracts exhibited to have high to very high antioxidant activities. Mostly, the values of antioxidant activities of Southern region have been shown to be always the highest.

**Keywords :** Arak, antioxidant, medicinal plants, Saudi Arabia

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