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# Estimation of Total Phenolic, Flavonoid Compounds and Antioxidant Activity of Rosmarinus Officinalis with Different Seasons of Year

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**Abstract :** The aim of this study was to evaluate the effect of ethanol extraction on antioxidant activities, total polyphenoThe aim of this study was to evaluate the effect of ethanol extraction on antioxidant activities, total polyphenol, phenolic acid and flavonoid content of Rosmarinus officinalis for different seasons. Our findings revealed that dry leaves of Rosmarinus officinalis had the highest total polyphenol, flavonoid and antioxidant activities in all seasons of the year. Ethanol extraction of Rosmarinus officinalis showed the IC50 (µg/mL) of activity antioxidant (DPPH) of all seasons between (24.72±0.16 and 114.42±4.38 µg/mL), showed the highest activity in total antioxidant (FRAP) of all seasons the A0.5 (µg/mL) between (7.62±0.30 and 48.74±2.54), polyphenol total (192.92±3.23 and 353.21±4.05 µg GAE/mg) and flavonoid content (61.88±3.53 and 190.11±5.65 µg QE/mg). When comparing the results obtained, we find a large difference between the values of IC50 of activity antioxidant (DPPH) and values of polyphenol total and flavonoid total content between the seasons of the year. This is due to the difference in plant components from one season to another.

**Keywords :** antioxidant activities, Rosmarinus officinalis, seasons, ethanol extraction
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