



COMPARATIVE THE ANTIOXIDANTS CHARACTERISTICS OF ORANGE AND POTATO PEELS EXTRACTS UNDER DIFFERENCES IN PRESSURE AND CONVENTIONAL EXTRACTIONS

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<https://doi.org/10.34302/crpjfst/2022.14.1.13>

Article history:

Received,

22 December 2021

Accepted,

25 February 2022

Keywords:

Antioxidants;

Antimicrobial;

Phenol;

Flavonoid;

DPPH.

ABSTRACT

This investigation aimed to decrease the extraction time of natural antioxidants and add commercial dimension to plant extracts. Impact the difference in pressure (DE) on antioxidant properties was studied by estimating total phenolic and total flavonoid contents (TPC, and TFC), DPPH[·] scavenging radical activity (IC₅₀), inhibition lipids peroxidation by both TBARs and β-Carotene/Linoleic acid bleaching (βCB) assays, antimicrobial activities, and yield of extracts, comparison with the resulting by conventional extractions (SE). The results showed positive effects of OPE, and PPE on antioxidants and antimicrobial activities, and the extracts of DE were the highest value to both orange and potato peel extracts. However, increase the yield of extracts and TFC by the decrease of ethanolic concentration of both orange and potato peel extracts, TPC, DPPH[·] scavenging radical activity, TBARs, βCB, and antimicrobial activity was increased by the increase of ethanolic concentration, and the extraction by DE was the highest value. The absolute ethanolic potato peel extract by soak extraction method (SE) was the lowest value of yield of extract and TFC (21.38±1.08, and 29.73±1.03; respectively), while absolute ethanolic orange peel extract by extraction method by DE was the highest value of TPC, DPPH[·] scavenging radical activity (IC₅₀), TBARs, and βCB (262.19±1.19, 21.18±1.18, 78.82±0.85, and 83.15±1.15; respectively). Also, the effect of absolute ethanolic orange peel extract by the difference in pressure on antimicrobial activity was the highest.
