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ANTIOXIDANT, ANTIMICROBIAL ACTIVITY OF POMEGRANATE PEEL WASTES EXTRACTED IN DIFFERENT SOLVENTS AND IDENTIFICATION OF PHENOLIC COMPOUNDS WITH HPLC-DAD

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ABSTRACT

The aim of this research was to investigate the extract of antioxidant and antimicrobial properties of pomegranate peel (PP) wastes and their effect on the *E. coli, S. aureus, S.mutans* at different concentrations of 10-100%. Total phenolic compound substance and antioxidant modification were inspected using Folin Ciocalteau and ABTS methods respectively. The antimicrobial activity was tested on the microorganisms using diffusion method and the scanning of the phenolic compounds were analyzed using HPLC-DAD and the most abundant compound was estimated to be the punicalin, gallic acid, ellagic acid and quercetin. The most common phenolic compound was detected to bepunicalin and the highest antioxidant activity was about 821.72 mmoltrolox/mg with (60%) acetone extract and the effect on the phenol increased up to 445.04 GAEq (mg GA/g) when PP extracted with ethanol, methanol and (60%)acetone. The results were evaluated and statistically analyzed according to antioxidant and antimicrobial effect of each extract on the *E. coli, S. aureus and S.mutans* which were found to be the most abundant when PP extracted with (10%-60%) acetone