Antiviral and Antimicrobial Assessment of Some Selected Flavonoids

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In the current study, the results of antibacterial, antifungal, and antiviral activity tests of four flavonoid derivatives, scandenone (**1**), tiliroside (**2**), quercetin-3,7-*O*-α-L-dirhamnoside (**3**), and kaempferol-3,7-*O*-α-L-dirhamnoside (**4**), are presented. Antibacterial and antifungal activities of these compounds were tested against *Escherichia coli*, *Pseudomonas aeruginosa*, *Proteus mirabilis*, *Klebsiella pneumoniae*, *Acinetobacter baumannii*, *Staphylococcus aureus*, *Bacillus subtilis*, and *Enterococcus faecalis*, as well as the fungus *Candida albicans* by a microdilution method. On the other hand, both DNA virus *Herpes simplex* (HSV) and RNA virus *Parainfluenza-3* (PI-3) were employed for antiviral assessment of the compounds using Madin-Darby bovine kidney and Vero cell lines. According to our data, all of the compounds tested were found to be quite active against *S. aureus* and *E. faecalis* with MIC values of 0.5 μg/ml, followed by *E. coli* (2 μg/ml), *K. pneumoniae* (4 μg/ml), *A. baumannii* (8 μg/ml), and *B. subtilis* (8 μg/ml), while they inhibited *C. albicans* at 1 μg/ml as potent as ketoconazole. However, only compound **3** displayed an antiviral effect towards PI-3 in the range of 8–32 μg/ml of inhibitory concentration for cytopathogenic effect (CPE).

Key words: Flavonoids, Antiviral Activity, Antimicrobial Activity