And identification of the chemical composition of essential oils extracted different parts of Pulicaria gnaphalodes using GC-MS device within Vzdqarchy examine the antimicrobial activity of extracts and essential oils

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Abstract: The Water-distilled essential oils different parts (flowers, leaves, root and stems) of Pulicaria gnaphalodes Bunge (Asteraceae family) were analyzed by GC and GC/MS. Also methanolic and hexane and chloroform extracts of aerial parts of P. gnaphalodes were extracted. Also the concentration of cadmium, zinc, cupper and lead were measured by atomic absorbtion method. The yiled of oils of flowers, leaves, stems and root of P. gnaphalodes were 0.18, 0.19, 0.19 and 0.21%, respectively. 22 (98.1%), 8 (96.8%), 30(97.0%) and 17(95.5%) compounds in the oil of flowers, leaves, stems and root of P. gnaphalodes were identified, respectively. 1,8-cineole(17.7%), chrysanthenone (14.6%), (Z)- calamenene (12.8%) and 4-terpineol (11.5%) were major components in flower oil of P. gnaphalodes. Safranal(18.7%), (Z,E)-α-farnesene (61.6%), 1,8-cineole (2.9%), 4-terpineol (3.7%) and luminol (8.4%) were major components in oil of leaves of P. gnaphalodes. p-cymene (7.1%), chrysanthenone (7.5%), 2-isopropylidene-3-methylhexa-3,5-dienal (6.8%), geraniol (6.2%), luminol (4.2%), ar-curcumene (13.2%) and β- costol (4.9%) were major components in oil of leaves of P. gnaphalodes. Also in root's oil nerol (21.2%), dihydrocumene (13.4%), ar – curcumene (18.7%) and E-nuciferol (18.7%) were major compounds. The oils and extract were tested against five strains of bacteria (gram-positive and gram-negative). In vitro antimicrobial activity of essential oils and extracts of P. gnaphalodes were investigated by disc diffusion method and the minimum inhibitory

concentration (MIC) and also minimal bactericidal concentration (MBC) determination. The studied sample was active against gram-positive and gram-negative microbial strains. Experimental accomplished there ascertainment fungi candida albicans in P. gnaphalodes effect anti fungi average inseme.

Keywords : Keywords: Assential oil, Extract, P. gnaphalodes, Antimicrobial activity, Antifungal activity, Atomic absorbtion.