37. THE TOTAL CONTENT OF HYDROXYCINNAMIC ACIDS IN SOLIDAGO VIRGAUREA L.SPECIES

Author: Rozlovan Djîliana

Co-author: Fursenco Cornelia

Scientific adviser: Uncu Livia, Associate Professor, Department of Pharmaceutical and Toxicological Chemistry, *Nicolae Testemitanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

Introduction. According to the recent bibliographic data, Solidago virgaurea L. (European goldenrod) contains various groups of biologically active substances, including the hydroxycinnamic acids, among them the most important are caffeoylquinic derivatives due to which the plant demonstrates a broad spectrum of therapeutic activities, such as antioxidant, anti-inflammatory, immunomodulating, antibacterial, antiviral, etc.

Aim of study. Spectrophotometric determination of total hydroxycinnamic acids in vegetal products of S. virgaurea species from the Republic of Moldova spontaneous flora.

Methods and materials. Plants of S. virgaurea species harvested from the Landscape reservation Trebujeni in the flowering period served as vegetal material. Before the extraction, the plant material was dried at room temperature. The dry extracts have been obtained through a fractional maceration method and afterwards have been concentrated using the Laborota 4011 rotative evaporator. The content of total hydroxycinnamic acids was performed by a spectrophotometric method, using the Arnow reagent described in the European Pharmacopoeia 6th edition and French Pharmacopoeia, 2007. The optical density was measured at Metertech UV/VIS SP 8001 spectrophotometer at wavelength of 518 nm.

Results. The total hydroxycinnamic content (THC) was performed according to a spectrophotometric method, using the Arnow reagent (10 g sodium nitrite and 10 g sodium molybdate made up to 100 mL with distilled water) and 8.5% sodium hydroxide solution. The absorbance of the test solution was measured immediately at 518 nm against blank. The percentage THC was calculated and expressed as caffeic acid, according to the following expression: (%)=A×200/m×300, where A is the absorbance of the test solution at 518 nm and m is the mass of the herbal drug, in grams. The results of the THC in different vegetal products (leaves, aerial parts and flowers) of S. virgaurea species indicate the following data: the highest percentage of hydroxycinnamic acids was determined in the flowers of European goldenrod (0,78%), followed by the aerial parts (0,66%) and on the last place are the leaves (0,52%).

Conclusion. The assay of total content of hydroxycinnamic acids in different vegetal products of S. virgaurea species from the spontaneous flora of the Republic of Moldova demonstrates that all vegetal products contain significant amounts of hydroxycinnamic acids, but the flowers are placed on the forehead.