6. EVALUATION OF PHENOLIC COMPOUNDS IN ETHANOLIC EXTRACT OF CICHORIUM INTYBUS L. BY HPLC METHOD

Author: Ciorba Alina; **Co-authors:** Cojocaru-Toma Maria, Uncu Livia

Scientific advisor: Valica Vladimir, PhD, Professor, Head of Department of Pharmaceutical and Toxicological Chemistry, *Nicolae Testemitanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

Introduction. Cichorium intybus L (Chicory), of the Asteraceae family, is a perennial herbaceous plant with a long tradition of use and various pharmacological activity such as: antibacterial, anti-inflammatory, analgesic, sedative, antidiabetic, hepatoprotective and antitumor.

Aim of study. Determination of phenolic compounds in ethanolic extract of the aerial part of Cichorium intybus by the HPLC method with UV-VIS detection.

Methods and materials. The aerial part of Chicory was harvested during the flowering period from the collection of the Scientific Practical Center in the Field of Medicinal Plants of Nicolae Testemițanu State University of Medicine and Pharmacy. The dry extracts were concentrated using a rotary evaporator-Laborota 4011. The analysis was carried out on Shimadzu LC-20AD chromatograph with UV detector, under the following conditions: stationary phase: Zorbax Exlipse Plus C18; 2 mobile phases: solvent mixture: methanol: water (40:60) with gradient elution and orthophosphoric acid 0.5%: acetonitrile (80:20) with isocratic elution mode; detection at wavelengths of 280, 325 and 360 nm.

Results. Optimal separation of phenolic compounds was achieved in the solvent system of 0.5% orthophosphoric acid:acetonitrile (80:20) at a wavelength of 325 nm. The presence of hydroxycinnamic acids (cycoric, chlorogenic, caffeic, and ellagic), flavonoids (rutin, quercetin, luteolin, kaempferol, apigenin) and tannins (catechin and epicatechin) was found in the dry extract of C. intybus. The identification of the nominated compounds was carried out by comparing the retention times on the chromatogram of the extract with those on the chromatograms of the standard solutions.

Conclusion. The developed HPLC technique with UV-VIS detection can be used for the separation, identification and quantification of phenolic compounds in the ethanolic extract of Cichorium intybus.