

Several *in vitro* and *in vivo* studies revealed that the presence of phenolic compounds in plant extracts could be related with important biological properties, such as antioxidant, immunomodulatory, antimicrobial and anticancer activities. One of the main groups of biologically active compounds in *Solidago* species (goldenrods) is represented by phenolic compounds. According to the bibliographic review, the profile of phenolic compounds in *Solidago* species varies significantly in qualitative and quantitative composition and strongly depend on the species, plant part, ontogenetic development, geographic regions and environmental conditions. It was revealed the widely used methods for determination of phytochemical and antioxidant profiles of goldenrods, such as HPLC post-column assays, DPPH and ABTS radical scavenging activity assays, using the reference antioxidant Trolox. It was evaluated the principal radical scavengers in chemical profile of goldenrods: phenolic compounds of sp. *S. canadensis* and *S. virgaurea* differed with predominant antioxidant activity of rutin, chlorogenic and 3,5-dicaffeoylquinic acids; of sp. *S. gigantea* – quercitrin, chlorogenic and 3,5-dicaffeoylquinic acids; of sp. *S. graminifolia* – chlorogenic acid, quercitrin and hyperoside. Consequently, these compounds can be considered as antioxidant activity markers in phytochemical profiles of the corresponding *Solidago* species.

**Conclusions.** Several studies predict the importance of *Solidago* species as valuable raw materials of biologically active phenolic compounds, which express important pharmacological effects and possess antioxidant activity.

**Key words:** *Solidago* species, antioxidant activity, phenolic compounds.

#### **425. THE TOTAL CONTENT OF POLYPHENOLS IN DRY EXTRACTS FROM DIFFERENT PARTS OF *HYPERICUM PERFORATUM* L.**

Author: **Ekaterina Volkova**

Scientific adviser: Anna Benea, university assistant, Department of Pharmacognosy and Pharmaceutical Botany, *Nicolae Testemitanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

**Introduction.** *Hypericum perforatum* L. belonging to the family Hypericaceae is a reputed medicinal plant including a wide range of important phytochemical components. The major components are: chlorogenic acid, rutin, hyperoside, quercitrin, quercetin, pseudohypericin, hypericin and hyperforin. Crude extract and individual compounds of *H. perforatum* have been reported to exert antidepressant, antibiotic, and antitumor activities. Getting of dry extracts is beneficial in terms of rational use of plant products, because the extraction yield of biologically active compounds is maximum, which also determines their high therapeutic properties.

**Aim of the study.** Quantitative determination of total polyphenols and flavonoids in dry extracts from aerial parts, flowers and seeds of *H. perforatum* L.

**Materials and methods.** The aerial parts, flowers and seeds of *H. perforatum* L. have been collected from the spontaneous flora and shade-dried. The dry extracts have been obtained through fractional maceration method. It was used as solvent ethanol 80%. The concentration of the extracts was done with the rotative evaporator *Laborota* 4011. Quantitative analysis of the phenolic compounds was realized using the *Metertech* UV/VIS SP 8001 Spectrophotometer.

**Results.** The total of flavonoids and polyphenols in the dry extracts from flowers (57,10 and 105,04 mg/ml) is higher than in the aerial parts (38,24 and 42,63 mg/ml) and the seeds (14,04 and 32,39 mg/ml). The total polyphenol content was estimated using *Folin-Ciocalteu* reagent.

The concentration of flavonoids and polyphenols was calculated from a standard curve plotted with known concentration of rutin and gallic acid.

**Conclusions.** There is a need for further chemical study of plant materials *Hyperici flores* and *Hyperici semina*, therefore, these parts of the plant can be used as future vegetal products.

**Key words:** *Hypericum perforatum*, polyphenols, flavonoids, seeds.

#### 426. VEGETAL PRODUCTS WITH HYPOCHOLESTEROLEMIC ACTIVITY

Author: **Garib Al Faraj**

Scientific adviser: Cojocaru-Toma Maria, PhD, associate professor, Department of Pharmacognosy and Pharmaceutical Botany, *Nicolae Testemitanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

**Introduction.** Cholesterol is a waxy, fat-like substance that's found in all the cells in our body. The body needs some cholesterol to make hormones, vitamin D, and substances that help in digesting. High-density lipoprotein (HDL), sometimes called „good cholesterol” carries cholesterol from other parts of the body back to the liver. HDL has been shown to have a variety of functions that may contribute to its cardiovascular protective effects, including the promotion of macrophage cholesterol efflux, anti-inflammatory, and antioxidative effects. Low-density lipoprotein (LDL) called „bad cholesterol” in a high level leads to the buildup of plaque in the arteries. LDL has now largely replaced total cholesterol as a risk marker and the primary treatment target for hyperlipidemia.

**Aim of the study.** The selection of vegetal products with hypocholesterolemic activity in light of the chemical compounds and usage in medicine.

**Materials and methods.** Analysis of bibliographical data concerning the selected vegetal products, and their products with hypocholesterolemic activity according to the chemical compounds.

**Results.** Medicinal plants can be used for the treatment and prevention of hyperlipidemia in conjunction with lifestyle changes. From medicinal plants with hypocholesterolemic activity, we mention those rich in polyholosides – *Lini semina* (*Linum usitatissimum* L.) with Detoxi Plus product; *Laminariae stipites* (*Laminaria saccharina* L.) with Laminarie, VD, Lamivit, No-Colest; steroid saponosides: *Dioscoreae rhizomata cum radicibus* (*Dioscorea nipponica* Makino) with Polisponinum and Diosponinum; bitter substances – *Taraxaci radices*, *T. herba*, *T. folia* (*Taraxacum officinale* L. Weber ex F.H.Wigg) with Antitox, Detoxiphyt, Normoponderol, and polyphenol compounds – *Cynarae folia* (*Cynara scolymus* L.) with Cholesterin products and *Cichorii herba* (*Cichorium intybus* L.) with Cortelax and Rhamnolax.

**Conclusions.** Medicinal plants can serve as accessible sources in the treatment of hypercholesterolemia due to vegetal products rich in polyholosides, steroid saponosides, bitter substances, and polyphenol compounds.

**Key words:** vegetal products, hypocholesterolemic activity.

#### 427. THE TOTAL POLYPHENOL CONTENT IN AERIAL PARTS AND ROOTS OF *BERTEROA INCANA* L.

Author: **Victoria Ciobanu**

Scientific adviser: Anna Benea, university assistant, Department of Pharmacognosy and Pharmaceutical Botany, *Nicolae Testemitanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova