

MINISTRY OF PUBLIC HEALTH OF UKRAINE
NATIONAL UNIVERSITY OF PHARMACY

TOPICAL ISSUES OF NEW DRUGS DEVELOPMENT

Abstracts of XXV International Scientific
And Practical Conference
Of Young Scientists And Student

April 18-20, 2018
Kharkiv

Kharkiv
NUPh
2018

Editorial board: prof. A. A. Kotvitska, prof. V. P. Chernykh,
prof. A. L. Zagayko, S. Yu. Danylchenko

Compilers: K. Y. Netosova, I. O. Surikova, O. S. Prokopenko,
A. S. Materiienko, D. V. Lytkin

Topical issues of new drugs development: Abstracts of
XXV International Scientific And Practical Conference Of Young
Scientists And Student (Kharkiv, April 18-20, 2018). – Kharkiv:
NUPh, 2018. – 554 p.

ISSN 2616-6615

Book of Abstracts includes materials of Scientific and Practical Conference of Young Scientists and Students “Topical issues of new drugs development”. Materials are grouped according to the main directions of scientific, research and educational work of the National University of Pharmacy. Teoretical and practical aspects of the synthesis of biologically active compounds and development of medicinal substances on their basis; standardization of drugs, pharmaceutical and chemical-technological analysis, the study of raw materials and herbal remedies development, modern drug technology and extemporal recipe; biotechnology in pharmacy, modern advances in pharmaceutical microbiology and immunology, clinical trials of new drugs, pharmaceutical care for prescription and OTC-drugs, evidence-based medicine, modern pharmacotherapy, socio-economic studies in pharmacy, marketing management and pharmacoeconomics during the development, implementation and use of drugs, quality management in development, production and trafficking of drugs; information technologies in pharmacy and medicine; basics of pedagogy and psychology; social science; philology are presented. Also in book there are published material ob All-ukrainian contest of student scientific work on speciality “Pharmacy, Industrial Pharmacy”.

For a wide audience of scientists and pharmaceutaical and medicinal employees.

UDC 615.1

DEVELOPMENT OF STANDARDIZATION PARAMETERS OF HERBAL SPECIES

Kriukova A., Vladymyrova I., Gubar S.
National University of Pharmacy, Kharkiv, Ukraine
kriukova92@gmail.com

Introduction. One of the basic conditions for effectiveness and safety of herbal medicines is the standardization and establishment of quality indicators not only medicinal plant material, which should meet the requirements of the relevant monographs of the State Pharmacopoeia of Ukraine (SPU) and also the dosage form.

Aim. The aim of our work was developing parameters for standardizing a new plant collection with analgesic and anti-inflammatory activity.

Materials and Methods. The object of the study was the herbal species, which includes (calculation for 100 g): *Harpagophyti radidis* 50 g, *Sophora flower-bud* 20 g, *Phaseoli vulgaris valvae fructus* 20 g, *Polygoni avicularis herba* 10 g. Studying and determination of the collections quality was done in accordance with the procedure of SPU 2.0.

Results and discussion. Identification was carried out by macro-, microscopic indicators and method thin-layer chromatography (TLC). In appearance (macroscopic signs) species should meet the following requirements: a mixture of pieces of greyish-green color with inclusions of yellow color with a specific aromatic smell. When we had been conducting microscopic examinations in the field of view of the microscope, fragments of all its components observed with the presence of their anatomical and diagnostic features. Quality indicators: loss on drying ($9,46 \pm 0,1\%$); total ash ($5,99 \pm 0,2\%$); content of extractives ($43,25 \pm 0,2\%$). For identification of TLC and following quantitative determination we used pharmacopoeial standard samples SPU: rutin, hyperoside, and also *arginine P*, *harpogoside P* (*Sigma-Aldrich*). Determined the quantitative content of biologically active substances in the herbal collection, such as: total flavonoids, expressed as rutin ($4,93 \pm 0,01\%$), total aminoacids, expressed as arginine ($0,36 \pm 0,02\%$), total polyphenols, expressed pyrogallol ($2,67 \pm 0,01\%$) by spectrophotometry. Quantitative content of harpagoside ($0,36 \pm 0,01\%$) was determined by high performance liquid chromatography.

Conclusions. As a result of the studies, the following parameters for the standardization macroscopic signs: a mixture of species of a different form of greyish-green color with inclusions of yellow color with a specific aromatic smell. The microscopic picture of the spi was characterized by the presence of all anatomical and diagnostic features of its individual components. Identification by TLC: in the chromatograms present fluorescent zones of solutions rutin and hyperoside. Quality indicators: loss on drying (maximum 10,0%); total ash (max. 8,0%); content of extractives (min. 30,0%). Rationing by indicator «Assay» propose to determine according to the content total flavonoids, expressed as rutin (min. 4,00%) by spectrophotometry.

RESEARCH ON THE ELEUTHEROSIDE B CONTENT IN THE BARK OF COMMON LILAC OF MILADA VARIETY

Krupenko O. V.
Scientific supervisor: assoc. prof. Popyk A.I.
National University of Pharmacy, Kharkiv, Ukraine
e-mail: aicnc2016@gmail.com

Introduction. Common lilac of Milada variety – is a member from Oleaceae family, which is widely cultivated on the territory of Ukraine and other countries. The chemical composition of common lilac is presented by flavonoids, lignans, iridoids and phenylpropanoids, which causes a wide range of pharmacological activity. The eleutheroside B is a standardization marker that provides high adaptogenic and immunomodulating activities, so a search of new raw material with phenylpropanoids is an actual task of phytochemistry.

Aim. The aim of the research was quantitative determination of eleutheroside B in common lilac bark of Milada variety.

Materials and methods. Quantitative content of eleutheroside B was determined by spectrophotometer Mecasys Optizen POP (Korea). Extraction of eleutheroside B was carried out by the following procedure. 1.0 g of the crushed bark were put to a flask with capacity of 100 ml and fractional extraction with 20 ml 70%, 95% of ethanol and mixture chloroform-ethanol (5:1) was carried out. Than 10 ml of water were added to the evaporated residue in the flask and purification of water phase by the triple extraction with 10 ml of tetrachloromethane was made. The purified fraction was placed in a separation funnel, eleutheroside B was extracted by the mixture chloroform-ethanol (5:1). The extract was filtered through a paper filter with 1.0 g of sodium sulfate anhydrous into a measuring flask with capacity of 100 ml, where the mixture chloroform-ethanol (5:1) was added till the mark. Quantitative determination was made using specific absorption value of eleutheroside B at the wavelength 278 nm, taking mixture chloroform-ethanol (5:1) as a reference solution. The content of eleutheroside B (X, %) was calculated using the formula: $X = A \cdot 100 \cdot 50 \cdot 100 / A_{1cm}^{1\%} \cdot 20 \cdot m \cdot (100 - W)$, where A – absorbance of the solution studied; $A_{1cm}^{1\%}$ – specific absorption value of eleutheroside B at 278 nm; m – weight of the plant material, g; W – weight loss on the plant material drying, %.

Results and discussion. Content of eleutheroside B in the bark of common lilac of Milada variety in terms on absolutely dry plant material was 1.3 ± 0.01 %.

Conclusions. The results of the studies carried out are encouraging to use eleutheroside B (syringin) as a marker for analysis of extracts of common lilac bark of Milada variety.

THE RESEARCH ON ASSORTMENT OF COMPUTER-BASED EDUCATION PROGRAMS IN HIGHER EDUCATIONAL INSTITUTIONS

Kuchma R. N.

Supervisor: prof. Khvorost O. P.

National University of Pharmacy, Kharkiv, Ukraine

rom1k.ok@gmail.com

Introduction. In the modern world one of the most promising and rapidly developing areas is the sphere of computer technology.

The use of various computer programs in educational institutions makes students improve their knowledge efficiently and faster.

One example of this approach is a knowledge testing program.

Using this form of survey creates an opportunity to obtain objective assessments of the level of skills and knowledge, as well as to identify training gaps.

One of the most significant advantages of this form of knowledge estimating is the speed of processing information.

A special algorithm for selecting questions, calculating the ratio of correct and incorrect answers allows to get the result immediately right after the end of the test.

Aim. Researching principles of the most common programs which are used to conduct computer testing system in higher education.

Determine the advantages and disadvantages of using this method.

Materials and methods. In the research, we compared several programs that differ in their functions.

Results and discussion. In the process of researching testing programs, two main types were identified: a single compiled program with ready questions base and a bunch of interdependent programs with possibility to edit questions and answers.

The advantages of several interrelated programs include their flexibility, the ability to be added, replaced and to create a new database of questions, as well as administration and full control of students during the testing. The disadvantage of this kind of program is vulnerability. The absence of any protection of the software can be fraught with the loss of data from the test database.

As opposed to the first option, the program in which the test base is added initially is much less vulnerable, what makes it more reliable in using.

The vast majority of programs work only in text mode, without support of digital images.

Jedio B. Dadi; Sc. s.: assoc. prof. Mala O. S.	40
Karpenko K. I., Zerniy A. R.; Sc. s.: assoc. prof. Novosel E. M.	41
Kasyanov Z. V., Starikova A. N., Rudakova I. P.	43
Kinichenko A. O.; Sc. S.: assoc. prof. Trzhetsynskyi S. D.	44
Kovalev V. M., Demeshko O. V., Kovalev V. V., Dashchi Mustafa	45
Kriukova A., Vladymyrova I., Gubar S.	46
Krupenko O. V.; Sc. s.: assoc. prof. Popyk A.I.	46
Kuchma R. N.; Sc. s.: prof. Khvorost O. P.	47
Kuksina E. A.; Sc. s.: assoc. prof. Borodina N. V.	48
Kuznetsova K. G., Ochkur O. V., Goncharov O. V., Goryacha O. V.; Sc. s.: prof. Kovalyova A. M.	50
Kyshko O. E.; Sc. s.: assoc. prof. Filatova O. V.	52
Kyslychenko O. A., Protska V. V.; Sc. s.: prof. Zhuravel I. O.	53
Leontiev B. S.; Sc. s.: prof. Khvorost O. P.	54
Marchenko V. O., Ochkur O. V., Goncharov O. V., Sidora N. V.; Sc. s.: prof. Kovalyova A. M.	54
Minaieva A. O., Rudiak A. O.; Sc. s.: Romanova S. V.	55
Moskalenko A. M. ; Sc. s.: prof. Popova N. V.	56
Muminov N.; Sc. s.: assoc. prof. Kovalevska I. V.	56
Kovalyov V.M., Krechun A.V.; Sc. s.: assoc. prof. Mykhailenko O. O.	57
Nemych V. A., Donakanian N. S.; Sc. s.: assoc. prof. Novosel O. M., assist. Horyacha L. M.	58
Nesterenko M. A.; Sc. s.: assoc. prof. Rudenko V. P.	59
Orazbayeva P. Z., Shakarimova K. K.; Sc. s.: assoc. prof. Ivasenko S. A.	60
Pinkevych V. O.; Sc. s.: assoc. prof. Kyslychenko O.A., assoc. prof. Novosel O. M.	62
Pisarenko O. S.; Sc. s.: assoc. prof. Slipchenko G. D.	62
Pohrebnyak V. V.; Sc. s.: prof. Kovaliov V. N.	63
Popp N. V.; Sc. s.: assist. Skrebtsova K. S.	64
Pratkelytė G.; Sc. s.: prof. Ivanauskas L.	64
Pyrlyk D. O.; Sc. s.: assoc. prof. Kuznetsova V. Yu.	66
Romanova S. V., Volochai V. I., Nemchenko D. B.; Sc. s.: assist. Minaieva A. O.	67
Sari Ayetullah; Sc. s.: assoc. prof. Taran K. A.	68
Solida S. V.; Sc. s.: assist. Skrebtsova K. S.	69
Storozhenko D. S.; Sc. s.: assoc. prof. Novosel O.M.	69
Ton J. M.; Sc. s.: prof. Khvorost O. P.	70
Turusova E. V., Illarionova E. S., Davydova V. V., Eremkin A. V.; Sc. s.: prof. Nasakin O. E.	71
Veretsun A., Kralin N.; Sc. s.: senior lecturer Berestova V. V., Tyukina V. M., Shemchuk O. A., Rudakova O. V.	72
Verkhovodova Y. V.	74
Vetrova A. V., Nuguman Kh. B., Shaimerdenova Zh. R.; Sc. s.: assoc. prof. Figurinine I. V., lecturer Sotchenko R. K.	74
Vibla V. V., Ochkur O. V., Goncharov O. V., Maksimyuk K. M.; Sc. s.: prof. Kovalyova A. M.	75
Vorchakova K. V., Ochkur O. V., Goryacha O. V.; Sc. s.: prof. Kovalyova A. M.	76
Vusyk D.; Sc. s.: assoc. prof. Sira L.M., assoc. prof. Gaponenko V. P.	77
Zhumagazeyeva A.Zh., Turgumbaeva A.A.	78
Zhurenko D. S.; Sc. s.: prof. Tsubanova N. A.	80
3. THE STANDARDIZATION OF MEDICINES. PHARMACEUTICAL ANALYSIS	
Akhras H., Petrushova L. O., Alexeeva T. V.	82
Al Sayed Moussa Al-Mousawi, Beviz O. V.; Sc. s.: assoc. prof. Abu Shark A. I.	82
Angish E. S. ; Sc. s.: assoc. prof. Lyulenova V. V.	83
Ayandeji Yetunde Adeola, Burian G. O., Materienko A. S., Masliy Yu. S.	84