

This fact largely determines the change in the outlook of the modern young generation, its reorientation in the digital technology.

Increasingly in the literature used the specialized terms that describe today's young adults as Net Generation (Tapscott, 1997), Digital Natives (Prensky, 2001), Generation Y (McCrindle, 2006) and others that express the modern students reliance on the informational and communicational devices such as PCs, mobile phones, digital music players, video games and other tools of the digital age.

According to the results of research scientists discovered about twenty psychological futures which characterize network generation: technological thinking, search engine mobility inductive learning, multifunction, emotional openness etc. Most of which positively influence the process of achieving theoretical knowledge and practical skills.

**Methods:** Concept-comparative, structure-systemic analysis; questioning; statistics.

**Results:** In order to optimize the process of pharmacists training among the representatives of digital system generation, there is a necessity of existing educational forms modernization, taking to attention psychological characteristics of modern students, including:

- increasing the volume of work performed with the usage of digital technology in the class-works and homework;
- explanation of the working strategy for the usage of on-line information retrieval systems, critical thinking and test results obtained in preparing for classes;
- teaching methods diversification of acquiring knowledge through group discussions, shared creativity, brainstorming, trainings and peer review of work performed;
- representation of kinesthetic perception of educational material;
- sustainable feedback between teacher and students during classroom activities and independent work of students using modern online technologies.

**Conclusions:** Thus, in dynamic development of the global pharmaceutical science, the crucial optimization is being performed in the field of pharmacists professional training in view of existing psychological characteristics of digital system generation in order to enhance cognitive activity, creative initiatives and public engagement, education of highly qualified and competitive professionals capable of introspection and critical comprehension of professional work performed.

**Key words:** pharmacists training, digital system generation, educational forms modernization.

## DETERMINATION OF CALCIUM IN CITRUS JUICE USING ATOMIC ABSORPTION SPECTROSCOPY METHOD

Uncu Andrei, Vislough Oxana

*Academic adviser:* Iurie Tihon, Ph.D., University Assistant, State Medical and Pharmaceutical University "Nicolae Testemițanu", Chisinau, Republic of Moldova

**Introduction:** Atomic Absorption Spectroscopy is a modern instrumental method that gives us the possibility to determine the chemical elements, in special, in a polycomponent sample. This technique involves aspirating an aqueous sample into a flame where the analyte is atomized. An isolated atom absorbs light at very specific wavelengths that are unique for each element. The amount of light absorbed by the analyte depends upon the concentration of analyte (Beer's law). By measuring the amount of light absorbed by the flame, it is possible to determine the concentration of analyte in the sample. Also, a series

of standard solutions must be prepared in order to calibrate the response of the instrument. This method it was used for the determination of the calcium in some fresh citrus juices, as it is difficult to determine it using other methods, because of the presence of other elements and organic compounds.

**Materials and methods:** Orange, lemon, mandarin and grapefruit fresh juice, balance, juice extractor, atomic absorption spectrometer Thermo Scientific ICE 3000, centrifugal, vacuum filtration set, pH meter, laboratory glassware, chemical reagents prepared in accordance with requirements of RF X.

**Results:** Calcium absorbs strongly at 239.9 nm and 422.7 nm. This property allows us to determine the concentration of the calcium atom in a such complex mixture like the citrus juice. The method of Atomic Absorption Spectroscopy uses the light of the desired wavelength which passed through the flame containing the atomized analyte. For the determination of samples were diluted and for avoiding the partial ionization in the acetylene flame the lanthanum chloride was added to samples. The calibration curve was established and then the elemental calcium was determined. The analysis was made in series of three replicates for each fruit juice and showed us these results: in orange juice – 30 mg/100 ml, tangerines – 35 mg/100 ml, grapefruit – 84 mg/100 ml and lemon – 34 mg/100 ml.

**Conclusions:** It was determined the total calcium from fresh citrus juices. The obtained results would be used for the benchmarking of ionic calcium with the total one. The applied method was efficient, sensible and precise, relative error having an acceptable value.

**Keywords:** Atomic Absorption Spectroscopy, calcium, citrus juice, absorbance.

## PHARMACEUTICAL BIOAVAILABILITY OF COMBINED OINTMENTS WITH IZOHYDRAFURAL AND METHYLURACIL

Bobrov Elena, Vislough Oxana, Suvorchina Olga, Tihon Iurie, Uncu Andrei

*Academic adviser:* Livia Uncu, Ph.D., Associate Professor, State Medical and Pharmaceutical University “Nicolae Testemitanu”, Chisinau, Republic of Moldova

**Introduction:** A difficult problem in the human pathology is the purulent infections due to the necessity of taking several drugs for a complex action such as: antimicrobial, regenerating, anti-inflammatory and analgesic. It is actual the elaboration of a new formulation for external use - combined ointment with izohydrifural and methyluracil, which combines the antibacterial action of izohydrifural and the regenerating and antiinflammatory actions of methyluracil.

**Materials and methods:** In research it was used the active substances: izohydrifural, methyluracil and excipients: polyethyleneglycol 400, vaseline, stearyl alcohol, cetyl alcohol, propyleneglycol, glycerin, tween 80, sodium laurilsulphate. Also, in research it was used the device Erweka USP for the dialysis method, UV-VIS spectrophotometer Agilent-8453, Milipore membrane 0,22 mm and dimethylformamide as dissolution medium.

**Results:** First of all it was elaborated the optimal formulation and the manufacturing technology of combined ointments. It was used different excipients, obtaining four models of combined ointments with concentrations of 0,1% for izohydrifural and 5% for methyluracil. Pharmaceutical availability of active principles from ointments was determined by the method of dialysis membrane. It was respected the conditions of method: 50 ml dimethylformamide - as dissolution medium, the temperature -  $37 \pm 1^\circ\text{C}$ . From the obtained dialysate, it was dosed the active substances by UV-VIS spectrophotometric method: izohydrifural at wavelength 373 nm and methyluracil at 267 nm. From the results, it was established that the maximum of disposal speed of active substances occurs in composition containing polyethylenegly-