The possibility of quantitative determination of the cyclamate in the food additive E-952 and other industrial products using the developed ISE is shown. The method meets all the requirements of modern analysis – simple, safe and inexpensive, sufficient precise, sensitive and selective. Sensor response time doesn't exceed 50 s and membrane life (35-55 days) allow to spend analysis without replacement. By means of sensor it is possible to determine Cyclamate in solutions containing 10^{-5} – 10^{-2} mol/l. RSD is less than 2.3%. $(\bar{X} - \mu)\ 100\%/\mu < RSD$.

Conclusions. Procedure for quantitative determination of the Cyclamate (E-952) by a direct ionometric method with ion-selective electrode (ISE) that is reversible to the product of Cyclamate – cationic complex of cyclohexene sulfamic acid with barium ions has been developed. Polyvinylchloride membrane ionic associate of cyclohexene sulfamic acid with barium ions and 12-molybdophoshoric acid proposed. It has been experimentally studied the influence of various factors on the characteristics of electrode. It was the influence of various factors on the characteristics of the developed electrode:

– pH test solution;

– nature of the solvent-plasticizer for the membrane;

– EAC content in the membrane.

ANALYSIS OF UKRAINIAN SUNFLOWER OIL QUALITY PARAMETERS IN ACCORDANCE WITH THE REQUIREMENTS OF THE EUROPEAN PHARMACOPOEIA

Onyshchenko O. O., Savchenko L. P., Petrushova L. O.
Scientific supervisor: Assoc. prof. Alexeeva T. V.
National University of Pharmacy, Kharkiv, Ukraine
onishenko199783@gmail.com

Introduction. According to WHO, musculoskeletal disorders as the cause of disability and mortality are ranked 4th in the world after cardiovascular, cancer and diabetes. In the nearest future experts predict an epidemic of osteoporosis, indicating the aging of the planet's population. According to statistics data, every fifth inhabitant of the globe suffers from back pain, while the proportion of osteochondrosis is up to 90 %. Chronic diseases of the musculoskeletal system are also one of the most common problems in Ukraine, and about 3.5 million people are encountered a problem of locomotor apparatus functional impairment. Its serious complications require continuous multi-year therapy. Treatment of osteochondrosis should be individual, taking into account the phase, pathogenetic features of the disease and the psychological component of the pain syndrome. The main method of osteochondrosis diseases treatment is the use of nonsteroidal anti-inflammatory drugs in various pharmaceutical forms, which also have a pronounced analgesic and anti-inflammatory effect. It is known that the patient's needs can not always be met with the help of industrial medicines. In this case, medicines prepared in the pharmacy, with necessary dosing of active pharmaceutical ingredients or in the adapted to each particular situation form, come to the aid. One of the main components of such medicines is sunflower oil. The problem for the compounding pharmacy today is the lack of the article in the State Pharmacopoeia of Ukraine (SPhU) that regulates its quality.

Aim. The purpose of the study was to determine the quality parameters of sunflower oil which can be used for preparing of extemporal dosage forms for external use. It was done for estimation of its quality correspondence to the European Pharmacopoeia (EurPh) article «Sunflower oil, refined» requirements and assessing the possibility of this article introducing into the SPhU.

Materials and methods. The quality parameters of three sunflower oils samples «Schedryiy dar» (Щедрий Дар), «Tsarska» (Царська), «Schebpak» (Щебпак) were analyzed during the research. Analysis was done by the EurPh article «Sunflower oil, refined» requirements. HPTLC-Plate Nano-Sil C_{18}-100/UV_{254} (10*10 cm), 20×20 cm twin trough glass chamber, CAMAG Linomat 5 sample applicator and CAMAG TLC Visualizer 2 were used for the fatty oils identification.

Results and discussion. All quality parameters except composition of fatty acids were determined during the research. Appearance and solubility of the oils: clear, light yellow liquid,

practically insoluble in water and in ethanol 96 %, miscible with light petroleum (40-60 °C). The relative density is 0.921. The refractive index is 1.474.

Identification of fatty oils in all samples was done by thin-layer chromatography (article 2.3.2 «Identification of fatty oils by thin-layer chromatography», method A). Plate was examined in daylight. The obtained chromatograms of three sunflower oil samples correspond to the typical chromatogram of reference solution (maize oil). In all chromatograms four spots of fatty oils were clearly visible. They were the same as the spots in the reference solution chromatogram. Rf value was determined for all four spots. It was 0.68, 0.70, 0.73, 0.76 respectively in all oil samples and correspond to the Rf value of fatty oils from maize oil. The brightest was the third spot on all chromatograms of sunflower oil samples.

Other necessary main tests parameters were determined by the requirements of the EurPh (SPhU). The obtained results are given in the table below.

Table 1

Results of tests parameters determination of three sunflower oil samples

Tests	Schedryiy dar (Щедрий Дар)	Tsarska (Царська)	Schebpak Щебпак	EurPh (SPhU)
Acid value	0.27	0.27	0.34	maximum 0,5
Peroxide value	3.38	3.42	6.85	maximum 10,0
Unsaponifiable matter	1.33 %	0.71 %	1.47 %	maximum 1.5 %
Alkaline impurities	missing	missing	missing	missing

Conclusions. The obtained results of qualitative parameters estimation of three samples of sunflower oils – Schedryiy dar «Щедрий Дар», Schebpak «Щебпак», Tsarska «Царська» showed their correspondence to the requirements of the EurPh article «Sunflower oil, refined».

DEVELOPMENT OF METHOD FOR THE TEST «DISSOLUTION» FOR SILDENAFIL CITRATE TABLETS

Popova V.P.
Scientific supervisor: associate professor Bevz N.Yu,
National University of pharmacy, Kharkiv, Ukraine
Popovaviktoria17@gmail.com

Introduction. The rapid development of sexual medicine in the last decade has significantly raised the level of standards and requirements for the diagnosis and treatment of profile patients. However, the problem remains with erectile dysfunction (ED), the prevalence of which tends to increase. In the general population of men, about 10% suffer ED, and in the group of men 40-70 years – up to 52%. According to American and European recommendations, phosphodiesterase type 5 inhibitors (FDE5) are first-line drugs in the treatment of patients suffering from ED. The «Viagra» (sildenafil citrate), registered in 1998, is currently considered a «gold standard» in the treatment of EDs. Active ingredient of sildenafil in Ukraine is more than 50 names. Recently, due to the imperfection of patent law in Ukraine, the threat of penetration of all kinds of falsifications, counterfeits and pirate copies of dasgs of sildenafil has increased. Such copies, as a rule, arrive without compliance with the technologies, do not correspond to the original bioequivalence and clinical efficacy products, they are attributed to the results obtained in the course of the study of the patented medicinal products. Therefore, the development of new methods for the quantitative determination of sildenafil is a topical issue of the present.

Aim. To develop a spectrophotometric method of quantitative determination based on the physico-chemical properties of sildenafil citrate for further application for the test «Dissolution».

Materials and methods. UV spectrophotometer Evolution 60S (USA), analytical balances Axis (Poland), a standard sample of sildenafil citrate (series 1), dishes Class «A», reagents and solvents that meet the requirements of the State Pharmacopoeia of Ukraine (SPU).

Results. The spectrophotometric method is the most often used to perform a tablet dissolution test. According to the SPU, the quantitative content of sildenafil citrate in the substance is determined by liquid