The methylcellulose solution from the concentration of 1% showed a better result than a 1% starch potato starch. A solution of 3% methylcellulose provided not quite the best, but rather high abrasion resistance, which was about 87%. And although the larger, but again not the best (89%) indicators of erosion (resistance to abrasion) had a solution of methylcellulose 5%, it was too thick for our mixture of powders, in addition to forming granulation mass that was difficult to granulate, we proposed the use of 3% solution of methyl cellulose. The granulate has pleasant technological properties (good flow, low angle of natural slope), but the tablets obtained from it, have not only low erosion, but also low crushing strength.

We adjusted these indices by adding such binder auxiliary substances as calcium phosphate dibasic and mannit. In both cases, the strength of these tablets is increased for erosion. But the greatest ability to increase resistance to abrasion has mannit. It provided a high level of abrasion resistance from a concentration of 0.8%. At the same time, calcium phosphate dibasic did not provide this resistance to abrasion, even at a concentration of one percent. At the same time, with a measure of erosion, we determined the strength of the tablets to be crushed. Were used the same substances.

The highest index of crushing strength was observed with the addition of mannitl, which also provided a high-strength tablet (greater than 50H) of a concentration of 0.8% (Calcium phosphate dibasic provides the required strength only from the concentration of 1%). That is why he (mannit) was proposed by us as a binder.

We also conducted a quality control of the tablets. According to indicators such as the flowability of the tablet mass, its angle of repose, the humidity, and the strength of the tablets against crushing, the strength of the tablets on the fate, the races of their decay, we see that the weight for tabletting has high (pleasant) technological parameters, and the tablets for the given indicators meet the pharmacopoeial requirements.

Conclusions. In result of conducted researches the composition and technology of tablets on the basis of medicinal raw material for prophylaxis and treatment urolithiasis has been obtained.

Was found, that technological properties of tabletting mass and tablets from it corresponds to the requirements of State pharmacopoeia of Ukraine.

DEVELOPMENT OF THE COMPOSITION AND TECHNOLOGY OF EFFERVESCENT TABLETS

Ismail Ajub Khaki,
Scientific supervisor: ass. prof. Yudina Yu.V.
National University of Pharmacy, Kharkov, Ukraine
eco3557@gmail.com

Introduction. One of the most important tasks of modern pharmaceutical technology is the creation of dosage forms that enhance the bioavailability of medicines. This is achieved in various ways, among which the use of special excipients (gas-forming mixtures, superdisintegrants, complexing agents, solubilizers) and technological methods (preparation of solid dispersions, ultrasound and cryomicroconisation) that increase the solubility or dispersibility of drug components can be distinguished. Among the group of rapidly dissolving dosage forms special place belongs to effervescent preparations in which the effect of rapid disintegration is achieved due to introduction of gas-forming components. The advantages of fast-dissolving dosage forms include high bioavailability, the possibility of reducing side reactions, combining mutually reactive components and correcting the unpleasant organoleptic properties of medicinal substances.

Aim. The aim of the present research was the development of technology and quality standards for dry granular effervescent beverages containing a complex of vitamins and adaptogens (with extracts of Eleutherococcus, Rhodiola rosea and tincture of ginseng supplemented with vitamins of groups C and B).

Materials and methods. In order to select the optimal beverage composition, 9 granules model (3 formulations for each type of beverage) are made, consisting of two fractions: carbonate and acidic. The ratio of carbonate and acid components was changed from 1.3: 1 to predominance of acidic (1: 1), creating a pH of 4.0-5.0. This allowed to ensure the completeness of gas formation and give a pleasant sour taste to the drinks. To provide an equal mass of both fractions, which was convenient in the technological aspect,

and also to increase the stability of the granules and improve the organoleptic characteristics, fillers (sucrose or lactose) were added to their composition. To correct the organoleptic characteristics of beverages, sweeteners, flavorings and colorants are included in the composition. Flavorings and colorants were selected in accordance with the flavor (for example, sunset - orange, acid red - raspberry, etc.).

Results and discussion. The estimation of technological and physicochemical parameters of the obtained granules and, accordingly, the selection of excipients was carried out on the basis of the determinations of the mass loss rate due to the release of carbon dioxide, the dissolution time of the granules, the gassing and gas saturation factors, pH, and the quality of the granule solutions (appearance, transparency) and their organoleptic properties.

At the same time, the following compositions of effervescent drinks possessed optimal technological characteristics and organoleptic properties. Since granules had a short shelf life (no more than 6 months) and taken into account the complexity in the manufacture (double-flow granulation) was investigated the possibility of obtaining effervescent tablets.

Two variants of the technology were investigated: using separate granulation (as in the preparation of granules) and a combined process. The evaluation of the obtained tablets was carried out according to moisture resistance, gas-forming ability, expulsion pressure (Рв МН / м2) and time of their dissolution (τ, min.). It was found that both methods provide the values of the generalized criterion within the limits of the optimum (0.1-0.2).

Conclusion. The technology, quality standards of dry granulated and tableted effervescent drinks with extracts of Eleutherococcus, Rhodiola rosea, tincture of ginseng and vitamins, presented in the form of dietary supplements to food. It is shown that the optimal technology of the main stage of production of dry effervescent drinks is the separate granulation of carbonate and acid components.

THE RESEARCH OF EXTRICATION RESVERTROL BY AN EQUILIBRIUM DIALESIS IN THE COMPOSITION OF THE VAGINAL GEL

Ivaniuk O. I.
Scientific supervisor: prof. Yarnykh T. G.
National University of Pharmacy, Kharkiv, Ukraine
alyonarub@gmail.com

Introduction. The development of vaginal dosage forms for the treatment of urogenital symptoms during the period of climax, pregnancy and various inflammatory diseases is relevant at present. The bioavailability of the active substance is an important parameter in the development of the drug. Bioavailability indicates the amount of active substance that reaches to the site of action. It is necessary to conduct studies on the bioavailability of the active substance in the formulation of the drug in the form of a vaginal gel. The active substance in the composition is resveratrol, which has an estrogen-like action.

Aim. The aim of study was to investigate the release of resveratrol in the composition of the gel with the addition of a surfactant in various concentrations.

Materials and methods. The studies were conducted using equilibrium dialysis through a semipermeable membrane. According to preliminary studies, as a surfactant, we selected tween-80 in the amount of 1%, 3% and 5%. To conduct research to the bottom hole of the inner cylinder, a semipermeable membrane was sealed hermetically. On the surface of the membrane, the test gel sample was applied evenly. The amount of gel was 10.00 g. The dialysis chamber was filled with a phosphate buffer solution of 47 ml. The pH of the phosphate buffer solution was 4,5. The internal cylinder with a gel sample was placed in a dialysis chamber until a semi-permeable membrane with a solution was contacted. Every 60 minutes, 5 ml samples were taken. After sampling, the volume of the buffer solution in the dialysis chamber was brought to a level. The studies were carried out in the thermostat TS-80M-2 with a temperature of 37.0 ± 1.0 °C, which simulates to the temperature of the vagina. The research was conducted for 6 hours. The optical density of the samples obtained was determined using a spectrophotometer at a wavelength of 270 nm in a cuvette with a layer thickness of 1 cm. The concentration of the samples obtained (g / ml) was determined by calibration graph or calculated using the data of optical densities of standard solutions.