

PHARMACOTECHNOLOGICAL RESEARCH FOR DEVELOPMENT OF INTERMEDIATE PRODUCT IN SYRUP TECHNOLOGY

Baluta O. O., Shmalko O. O.

Scientific supervisor: prof. Vyshnevskaya L. I.

National University of Pharmacy, Kharkiv, Ukraine

shmalko@gmail.com

Introduction. Creation of phytomedicines largely depends on the rational and grounded choice of the extractant and the optimal technology development. No less important is the development of the proper methods of analysis and specification on their basis.

Aim. The aim of research was to obtain an aqueous extract as an intermediate product for phytosyrup creation and to develop specification on it.

Materials and methods. In the given study comparison of maceration and remaceration methods was conducted with the further research of the rational quantity of extraction stages.

Results and discussion. When research conducting, the aqueous extract was obtained by maceration method with mixing while heating. As remaceration is more effective method it was necessary to determine the number of extraction stages that would ensure the optimal ratio of the biologically active substances concentration and volume of the final aqueous extract. The minimum quantity of extractant that gives a “mirror” equals those in ratio (2.5:1) to the raw material. There were conducted fourfold extraction of phyto composition, extraction time for each stage was 30 minutes. Dry residue, concentration of hydroxycinnamic acids and flavonoids was determined in each portion of the extract. According to the findings, the largest output of extractive compounds and certain groups of biologically active substances takes place on the first and the second stages of extraction. The third and the fourth stages show the significant decrease in the concentration of flavonoids and hydroxycinnamic acids in the extract. Therefore, as the method of extraction, we have chosen remaceration in two stages with an overall ratio of raw material to final extract (1:5).

Conclusions. Thus, based on the conducted studies the aqueous extract was obtained, as an intermediate product for phytosyrup creation and specification development. Extract is reddish-brown liquid with a spicy smell, bitter taste and sweet flavour. The technological process of obtaining aqueous extract and the technological scheme of its production were developed. Identification and quantitative content of flavonoids and hydroxycinnamic acids, dry residue and heavy metals content were assigned as the monitoring parameters.