

RESEARCH OF RATIONALE CHOICE OF MEDICINAL PLANT RAW MATERIALS FOR THE TREATMENT OF CENTRAL NERVOUS SYSTEM DISEASES

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Introduction. Compiling and studying the multicomponent collection for its further research as a part of the developed dosage form we used algorithm of carrying out of complex researches: statement of the purpose of creation of a multicomponent composition; selection of the basic phytocomplex for the future composition; theoretical substantiation of phytocomposition taking into account data of literature on pharmacological action; further studies of the proposed phytocomposition in dosage form.

Aim. The purpose of this fragment of research was to determine the qualitative and quantitative composition of the collection of plants that have a sedative effect on the central nervous system.

Materials and methods. When choosing components for sedative phytomedicines, we took into account the principle of the frequency of plant combinations in known multicomponent phytomedicines. For this purpose, an analysis of herbal medicines registered on the Ukrainian market, as well as fees included in the author's publications was conducted.

Results and discussion. We considered that the used and common combinations of plants in one dosage form indicate the feasibility of their combination and pharmacological compatibility. Table 1 shows the most well-known combinations of medicinal plants in the collection and other herbal medicines.

Table 1

The most well-known combinations of medicinal plants, which are part of sedative fees

Name plant	Valerian	Hops	Melissa	Nettle	Mint	Hawthorn
Valerian	0	+++	+++	+++	+++	+++
Nettle	+++	+	+	0	+++	+++
Hops	+++	0	++	+	+++	+++
Mint	+++	+	+++	+++	0	+++
Mint	+++	+++	+++	+++	+++	0
Melissa	+++	++	0	+	+++	+++

Note: + – are rare; ++ – are common; +++ – are very common.

Such medicinal plants as dog nettle, Baikal hellebore and cyanosis attracted approaching the choice of the component composition of the phytopreparation, our attention as raw materials.

From the literature it is known that Baikal helmet has a calming effect, improves sleep, helps lower blood pressure. It is used for neurosis, insomnia, irritability, hypertension, as it has a calming effect on the central nervous system, dilates blood vessels, lowering blood pressure. Baikal sagebrush is superior to nettle and valerian in terms of sedative effect, while sagebrush preparations are low-toxic.

Nettle also has a sedative effect on the body, having a positive effect on the central nervous system, reducing excitability and enhances the effect of other sleeping pills. Nettle preparations significantly reduce anxiety. Nettle has a positive effect on the autonomic nervous system, which depends on the work of internal organs and the circulatory system.

The sedative properties of cyanosis decoction were first noticed by prof. V.V. Nikolaev and A.A. Tsofina who established the sedative activity surpassing even valerian.

Analyzing the above pharmacological effects of nettle grass, Baikal sagebrush roots and rhizomes with cyanosis roots, we considered it appropriate to obtain a complex herbal medicine with maximum sedative effect. The central plant object in this combination is the Baikal helmet. Nettle and cyanosis potentiate the sedative effect. Despite the effectiveness of drugs nettle and cyanosis blue sedative effect is slow, their pharmacological activity is cumulative, which requires long-term use.

Conclusions. Thus, the sedative collection includes types of medical plant material that show sedative and hypotensive effect. All components potentiate each other's action and have a sedative effect that exceeds the known drugs based on valerian. Therefore, the ratio of medicinal plant raw materials in the ratio of dog nettle grass: roots of Baikal hellebore: rhizomes with roots of cyanosis blue 1: 1: 1 was proposed.

STUDY OF THE TECHNOLOGICAL PROPERTIES OF THE COLLECTION FOR THE TREATMENT OF DISEASES OF THE GASTROINTESTINAL TRACT

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Introduction. Peptic ulcer and 12 duodenal ulcer is one of the most common diseases in the structure of gastroenterological pathology. Peptic ulcer occurs with frequent exacerbations and is characterized by a clear morphological feature – the loss of a portion of the mucous membrane with the formation of an ulcer in the gastroduodenal zone, washed by active gastric juice.

Aim. To study the effect of the degree of grinding of medicinal raw materials on the efficiency of the release of biologically active substances.

Materials and methods. The composition of the collection of antiulcer includes the types of medicinal products that contribute to the restoration of the affected gastric mucosa, cell regeneration, have an antispasmodic, secretolytic effect. As a basis (choleretic, antiulcer, hepatoprotective component) in the formulation, calendula flowers are proposed – 30 parts; to improve metabolism and as a vitamin component – sea buckthorn fruits – 10 parts; as an anti-inflammatory, wound healing – plantain leaves – 40 parts; antiulcer component – coriander fruits – 10 parts; antispasmodic component – marsh cinnamon herb – 10 parts.

Results and discussion. The completeness of extraction is influenced by a number of technological parameters of medicinal product, such as specific gravity, bulk density, bulk density, porosity and porosity of raw materials, free volume of the layer, angle of repose, coefficient of water absorption. Further research was aimed at determining these indicators.

The first stage of research was to study the degree of grinding of medicinal plant materials in order to determine the modes of technological processes. Intensification of the process of extraction of biologically active substances directly depends on the degree of grinding of medicinal plant raw materials. An important stage in the development of a herbal medicine is the grinding of raw materials with damage to the structure and an increase in surface area for extraction efficiency. As a result of grinding the raw material, parts of the cells open and during extraction the content is washed out by the extractant. With the help of a rotary knife mill RM-250, uniformity of particles was achieved.

Sieve analysis is a quantitative characteristic of the fractional composition of a mixture of crushed medicinal plant materials.