RESEARCH IN BIOLOGICAL ACTIVE SUBSTANCES OF THE BEARBERRY LEAVES EXTRACT, WHICH WAS OBTAINED WITH 50 % ETHANOL

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Introduction. The bearberry is a medicinal plant of the family *Ericaceae*, which is widely used in national and traditional medicine for treatment of the urinary system. Decoctions of bearberry leaves is used for cystitis, chronic nephritis, urethritis. This medical form has disadvantages such as: long preparation period, inconvenience and irregularity of dosage, short expiration date, absence of standardization before using. Therefore it is advisable to invent national standardization medicine on the base of biologically active substances of bearberry leaves.

Aim. Making a research of the chemical content of the dry extract from the of bearberry leaves, received with 50 % of ethanol was the aim of this work.

Materials and methods. The object of research was the dry extract of the bearberry leaves, which was received with 50 % of ethanol the ratio 1:10. The research was made in comparison with a decoction, which was received by the classical technology. The prior chemical research of the extract was conducted by normative methods thin-layer chromatography. The Quantitative analysis showed the content of arbutin, hydroxycinnamic acids, flavonoids and amount of phenolic compounds. It was made by using pharmacopoeia spectrophotometry methods.

Results and discussion. Simple phenols (arbutin), phenol carboxylic acids (gallic and ellagic acids), hydroxycinnamic acids (*p*-komarova and chlorogenic), flavonoids (luteolin, quercetin and kaempferol), tannins (gallo- and ellagotannins) were identified in the extract by the method of thin-layer chromatography.

Table

The quantitative analysis of phenolic compounds in the extracts from bearberry leaves

Group BAS	Assay, % (in terms of absolutely dry raw material)	
	The decoction	The dry extract
Arbutin	8,59 ± 0,05	7,56 ± 0,05
Hydroxycinnamic acids	1,58 ± 0,01	1,90 ± 0,04
Flavonoids	1,59 ± 0,04	2,15 ± 0,03
Phenolic compound	8,80 ± 0,05	13,80 ± 0,04

The content of total phenolic compound, flavonoids and hydroxycinnamic acids in the dry extract is more than in the decoction.

Conclusions. The research of chemical composition of the dry extract from the bearberry leaves, received with 50 % ethanol in comparison with the decoction shows that the received extract is a perspective material for the creation of a new medicine on the basement of hydroxycinnamic acids, flavonoids and phenolic compound of the bearberry leaves and the received data will be used for its standardization.