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Development of a dosage form based on a water extract of *Orthilia secunda*

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Abstract

A prospective object for the pharmaceutical research is *Orthilia secunda* or the borovaya matka through the complex of biologically active substances in its composition. The purpose of the work was the creation of a dosage form based on the water extract of this plant. The antimicrobial activity of the infusion and of the decoction of ortilia secunda was studied by the disk method. The effectiveness of the extracts is proven to be effective against the bacterial cultures such as *Escherichia coli*, *Bacillus cereus* and *Sarcina sp.*, as well as an imperfect fungi *Yarrowia lipolitica* and *Rhodotorula sp.* It has been established that the antimicrobial activity of the infusion decreases during sterilization, compared to the option before the heat treatment. The decoction showed the high resistance to the sterilization, except for its activity towards *Yarrowia lipolitica*. The antimicrobial effect of only the decoction was noted both before and after sterilization on the spore-forming yeast *Saccharomyces cerevisiae*. The obtained water extracts had antioxidant activity, which was practically not affected by the heat treatment. The microbiological analysis of the water extracts showed the effectiveness of the performed sterilization at the predetermined conditions. A evaluate of the quality of the water extracts was carried out. A shelf life of this dosage form increased from 2 days to 15 days at a temperature from 0 to +7 °C after the sterilization. Therefore, it was proposed to introduce a stage of the sterilization into the technology for the obtaining decoction. The main stages of obtaining the dosage form are presented on the basis of the decoction of ortilia secunda with the necessary equipment for this. The content of anthocyanins had determined in the studied plant raw materials, which had amounted to103.7 micrograms per 1 g of wet weight.

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