

1. Reduction in the costs of transport and disposal of chemicals.
2. Reduce the risks of storing, transporting and packaging toxins.
3. To reduce the life time of hazardous elements of production to save on the synthesis of clavulanic acid.
4. Increased spectrum of potential antibacterial drugs use.
5. Subsequently, the process of regeneration of lithium aluminum mattes can be improved both economically and environmentally (replacement of carbonate barium with calcium carbonate followed by precipitation of oxalate).

**PROSPECTS FOR THE DEVELOPMENT OF PROLONGED ACTION SOLID
DOSAGE FORMS BASED ON BORAGE OIL AND DRY EXTRACT
OF BLACK POPLAR BUDS FOR THE TREATMENT OF CYSTITIS**

Volkohon A.O.

Scientific supervisor: associate professor Kovalevska I.V.

National University of Pharmacy, Kharkiv, Ukraine

anastasiavolkogon2018@gmail.com

Introduction. Cystitis is one of the quite frequent nosological forms of infectious and inflammatory diseases of the urinary tract, the main morphological substrate of which is inflammation in the epithelium and stroma of the bladder wall. In general, urinary tract infections (UTI), including cystitis, are most commonly diagnosed in women. According to statistics, about 50% of women had a history of at least one episode of UTI during their lifetime, and almost one third of all women had at least one case before the age of 24.

Bacterial infection is the most common cause of chronic cystitis. According to the analysis of literature data, in 20-30% of women there is a relapse within 3-4 months after a primary urinary tract infection. About 10-20% of them suffer from recurrent cystitis throughout their lives, which significantly affects the quality of life and has a great social importance in general.

According to the results of marketing research, it has been found that in the treatment of cystitis in 80% of cases antibacterial drugs are used: fluoroquinolones, nitrofurans, cephalosporins, which have a number of side effects. The use of herbal remedies can help reduce them while maintaining the necessary therapeutic efficacy.

Aim. To work out new medicinal preparation on basis of borage grass – *Borago officinalis* and black poplar buds – *Populus nigra*.

Materials and methods. Borage grass – *Borago officinalis* and black poplar buds – *Populus nigra*; physical and chemical, physical, technological methods.

Results and discussion. A promising direction in the treatment of cystitis is the use of borage grass – *Borago officinalis* and black poplar buds – *Populus nigra*. According to the literature, both plants contain flavonoids, essential oils, phenolic compounds, tannins. Borage herb is a pharmacopoeial plant of many European countries, provides anti-inflammatory and diuretic action. Black poplar buds are used in folk medicine as a diuretic, anti-toxic, analgesic, antiseptic, bactericidal agent. They promote granulation, epithelialization and regeneration of the inflamed epithelium of the urethra. Preparations of black poplar buds are widely used in the treatment of urinary diseases (nephritis, urethritis, cystitis, prostatitis). The use of a combination of these plant components will enhance their therapeutic effect.

According to the literature, solid dosage forms that provide accurate dosing, modified release of active pharmaceutical ingredients, have optimum consumer properties are widely popular among the population. To reduce the frequency of taking the drug and to improve its compliance, it is rational to create a solid dosage form in the form of prolonged-action tablets.

Conclusions. Thus, the development of drugs for the treatment of inflammatory processes of the bladder in the form of solid dosage forms of prolonged action based on plant materials will reduce the risk of side effects and improve patient compliance. Also, the use of drugs based on borage grass and black poplar buds will provide effective therapy with minimal side effects.