Chemical and pharmaco-technological evaluation of Adjara region peat peloids

Tsertsvadze A[(1)], Matchutadze I[(1)], Berashvili D[(1)], Ebralidze L[(1)], Mulkijanyan K[(1)], Bakuridze K[(1)], Bakuridze A[(1)]

[(1)]Tbilisi State Medical University, Georgia

"Peloids" is an internationally recognized name of all kind medical muds. They are natural mixture of inorganic and organic materials and performs homogenous, finely dispersed mass with definite physical and chemical properties

The effectiveness of peloids is due to high content of biologically active substances. High content of organic substances in peloids, such as chemically and biologically active organic carbon compounds formed by long-term chemical and microbiological processes, provides their application prospects in clinical practice.

The objective of the research was evaluation chemical and pharmaco-technological properties of Adjara region Peat Peloids.

The following tasks were to be solved to achieve the goal: Study chemical properties of Adjara region Peat Peloids; Determination spectrum of organic and inorganic substances; Formulation of nanocomposite containing sphagnum peat peloids; Formulation composition and development preparation technology of topical dosage form, plaster, containing nanocomposite of sphagnum peat peloids; Study anti-inflammatory and antibacterial activity of peat peloids;

The materilas of the research: sphagnum peat peloids of different ages (Ispani, Anaklia, Chirukhi, Peranga, Churia). Research strategy was to held experiments gradually from simple to complicated.

Technological and biologic methods were used to solve research tasks. Research was held using modern instrumental methods of analysis&apparatus (UV spectrophotometer, Scanning Electron Microscopy, X ray fluorescence, Centrifuge, Dry oven, Ultraturax, AFM, XRD).

It is estimated that Kolkheti sphagnum peat peloids contain a wide range of organic substances: humic acids, amino acids, fatty acids, carbohydrates and others.

As a result of the research composition, design and preparation technology of plaster containing nanoconstructed system of sphagnum peat peloids is determined. Based on the research data Isapani sphagnum peat peloids and formulated dosage form (plaster) obtained anti-inflammatory action. Based on serial dilution (macro) method antibacterial activity of high concentration (1:1) sphagnum peat peloids (Ispani) was established.

ISSN: 0214-2813
DOI: 10.23853/bsehm.2018.0735