DEVELOPMENT OF THE METHODS FOR QUALITY CONTROL OF BRONCHOFORT TINCTURE

Palchyk S. O., Bevz N. Yu., Kukhtenko O. S.
National University of Pharmacy, Kharkiv, Ukraine
Nata.bevz.60@gmail.com

Introduction. Medicinal plants containing essential oils take one of the leading positions at the pharmaceutical market due to the wide spectrum of the pharmacological action such as the antiseptic, antibacterial, analgesic, regenerating, expectorant, diuretic and sedative action. Many essential oils improve the circulatory system work, have a beneficial effect on digestion, excrete toxins and wastes from the body, strengthen the immune system, normalize the endocrine profile. These features are explained by complexity of the chemical composition and the mechanism of the therapeutic effect.

Aim. The Department of Industrial Drug Technology works on development of the tincture under the conditional name of Bronchofort for using it as an agent for the treatment of the upper respiratory tract (laryngitis, tracheitis, pharyngitis and bronchitis). The composition of the tincture includes chamomile flowers (*Matricaria recutica* L.), leaves of southern blue gum (*Eucalyptus globulus Labil)*, thyme herb (*Thymus vulgaris* L.) and common yarrow herb (*Achillea millefolium* L.). The choice of these plants is stipulated by the presence of different classes of essential oils possessing the anti-inflammatory, antibacterial, expectorant, sedative, analgesic actions. Therefore, the aim of our work is to develop the methods for quality control of biologically active substances in Bronchofort tincture.

Biologically active substances of medicinal herbs in the composition of the tincture indicate that the most compounds are aromatic in nature and contain hydroxyl groups in their structure. In order to develop the methods for quality control of the tincture under research at first it is advisable to study the character of absorption spectra of all alcoholic solutions of the components and the total drug.

Materials and methods. The absorption spectra of alcoholic solutions of the tinctures under research were recorded on an Evolution 60s spectrophotometer in the region from 220 nm to 400 nm.

Results and discussion. It has been found that all of them are characterized by the presence of two absorption maxima at the wavelengths of 272-284 nm and 322-331 nm, it may indicate the presence of substances with the polyphenolic structure, as well as hydroxycinnamic acids.

Conclusions. Therefore, when developing the methods for quality control the content of biologically active substances in Bronchofort tincture should be calculated with reference to gallic acid or hydroxycinnamic acid.