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## **ANALYSIS OF MEDICINAL PLANTS INCLUDED IN THE CONTENT OF EXTEMPORAL (MAGISTRAL) FORMULAS**

**Abstract.** *The pharmaceutical market of extemporal (magistral) formulas containing medicinal raw material in was analyzed Chernivtsi pharmacies. Preparation of extemporal drugs using medicinal raw material was found to be topical and reasonable.*

**Key words:** *extemporal formulas, medicinal plants, medicinal raw material.*

**Introduction.** Nowadays great attention in the international pharmaceutical practical work is paid to the issues of producing drugs in the pharmacies. Manufacturing medicines in pharmacies has more than 400-year history. It is maintained in all the leading countries of the world with highly developed economy and pharmaceutical industry [2]. The world experience is indicative of the fact that the majority of the world countries prioritize maintenance and development of an individual approach to the needs of a patient. In our country many representatives of management begin to understand the hole importance in the development of “personal medical agents” conception. Under such conditions it is extemporal preparation of drugs that becomes of a new value, and today it is represented as manufacturing of medicines according to the needs of every patient individually [3].

The issues concerning development of the pharmacy unit in Ukraine becomes important in the context of European integration as well.

In spite of a wide range of officinal medicines in pharmacies, extemporal prescription remains rather timely and has a number of advantages: accurate dosage of active substances according to the age and body mass of a patient; possibility to choose the most reasonable ratio of ingredients;

lack of stabilizers, preservatives, colouring agents, flavoring substances, which is especially important for infants and children, elderly persons, patients with chronic diseases complicated by allergy anamnesis etc.; taking into account genetic, age, gender peculiarities of the human organism; reasonable prices for the course of treatment; impossibility of falsification [2]. Meanwhile, the interest to use medicinal pants in the content of extemporal prescription is increasing. It is stipulated by the fact that in case of correct dosage they are practically non-toxic, harmless, relatively available, effective and in some cases without analogues due to their comprehensive action. Substantial resources, availability of medicinal raw material, possibility to cultivate make these medicines economically available.

**Objective:** to investigate the pharmaceutical market of extemporal formulas containing medicinal raw material and natural extracts.

**Materials and methods.** The need to prepare medicines according to extemporal formulas in the pharmacy really exists, and pharmaceutical industry does not produce such medicines. It especially refers to medicines used for the treatment of specific diseases, medicines with a limited shelf-life and multicomponent content, those with individual doses and in case

incompatible ingredients are available. A doctor prescribes a rational combination of substances different by their pharmacological action considering an individual approach to a patient providing decrease of unfavourable effect of certain ingredients. Extemporal medicines enable to provide an individual approach to the treatment of a patient and at the same time they have a reasonable price for the public at large [1].

In recent 8 years in Ukraine the number of pharmacies able to produce medicines has reduced (from 3724 in 2009 to 327 at the beginning of 2017) as well as the whole extemporal production (on an average 44% lower in the country in comparison with 2009) [2]. Though, in recent years the number of pharmacies able to produce medicines has begun to grow. Thus, today in Chernivtsi region there are 6 manufacturing pharmacies including 3 in the town of Chernivtsi and 3 more – in the regional districts.

The study was conducted on the basis of manufacturing pharmacies in the town of Chernivtsi, in particular, municipal pharmacy № 2, pharmacy № 5 «Under St. Igor Patronage» and educational-manufacturing pharmacy of Higher State Educational Establishment of Ukraine «Bukovinian State Medical University». Mixtures of medicinal plants indicated by the doctors from the Municipal Polyclinic №5 in Chernivtsi were analyzed as well.

**Results and discussion.** A wide range of medicinal plants, teas and mixtures is available at the pharmacies. Though, they are used after being prepared at home, which cannot guarantee their correct manufacturing and use resulting in reduced pharmacological effect.

In the course of the investigation we have found that the pharmacies prepare only 5 semi-solid forms of medications and 4 liquid forms. These forms contain only 4 kinds of medicinal raw material (chamomile flowers, rhizome and roots of valerian, leaves of peppermint, herb of nettle) out of 112 medicinal plants included in the State Pharmacopoeia of Ukraine. For example,

ointment applied in case of inflammatory processes of the skin: Riboflavini 0,01; Retinoli acetatis 0,05; Lanolini, Vaselini ana 5,0; Decocti flores Chamomillae ex 1,0 – 10 ml.

Liquid forms of medications include a mixture with sedative action: Folium Menthae 4,0; Natrii bromidi 3,0; Amidopyrini 0,6; Coffeini-natrii benzoatis 0,4; Magnesia sulfatis 0,8; Aquae purificatae 200,0.

It is indicative of availability to use medicinal plants in manufacturing medicines in pharmacies.

There is a certain practice in the use medicinal teas that are selected in the best possible way, studied and effectively used by doctors in a comprehensive treatment and rehabilitation of patients with stomach pathology (9 teas), disorders of the intestine (6), liver (19), gallbladder (5) and pancreas (7). Thus, for example, with chronic enterocolitis associated with constipation the following medicinal tea appeared to be rather effective (100 g):

Herba Hyperici 20,0;  
Herba Millefolii 20,0;  
Flores Chamomillae 30,0;  
Folia Menthae 10,0;  
Rhizomata Calami 20,0.

**Conclusion.** Further development of such an area in Ukrainian pharmacy as manufacturing extemporal medicines using medicinal raw material is topical and reasonable.

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