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MARKET ANALYSIS ON MEDICINAL PLANT RAW MATERIAL

Abstract. *The advantage of medicinal plants is their high biological activity in combination with rather low toxicity, good tolerance of phyto-preparations by patients, and as a rule, the absence of considerable side effects, and possibility of long administration. According to the study conducted chamomile flowers as medicinal raw material is in the greatest demand among the population.*
Keywords: *medicinal plant raw material.*

Introduction. The beginning of the XXI century is characterized by a wide use of phytotherapy and a very fast spread of assortment of plant medicinal remedies at the world pharmaceutical market [3]. According to the UN Food Agricultural Organization sales volume of plant medicinal remedies has exceeded 1 billion US dollars at the end of the last century [2].

In spite of rapid development of chemistry and appearance of new more effective synthetic medicines medicinal plants remain to be on a leading position in the arsenal of medical agents and their popularity in the whole world has been increasing. At the pharmaceutical markets of developed countries the share of medicines of a plant origin constitutes 50%. For example, 80% of physicians of all specialties use phyto-preparations in their practical work in Germany [3]. By the WHO prognosis their share during the following decade will constitute over 60% [4].

In recent years in Ukraine a tendency has been observed to the increase in prices for medical preparations making people more often use plant medicinal remedies. In this situation during the last 10 years in Ukraine a number of enterprises cultivating medicinal plants has been renewed and developed.

The advantage of medicinal plants is their high biological activity in combination with rather low toxicity, good tolerance of phyto-preparations by patients, and as a rule, the absence of considerable side effects, and possibility of long administration.

In addition, phyto-therapeutic means possess wider therapeutic action and other advantages as compared to synthetic medical agents. As a result, phyto-preparations have been successfully competed with drugs obtained by means of synthesis for several years already [6, 10].

Preparations of a plant origin are able to participate organically in biochemical processes of the human body, change these processes and reveal therapeutic action even in small doses of their administration [9]. One more considerable difference of preparations of a plant origin from their synthetic analogues is that pharmacological effect of a synthetic drug is based on the action of one or several purified active substances. In their turn, preparations of a plant origin contain several groups of biologically active substances with various pharmacological actions. Every compound contained in a plant possesses its individual pharmacological effect, and therapeutic action of plants is based on the combination of effects of several compounds. This effect of medicinal raw material is achieved by means of synergism of biologically active substances in the content of plants [9].

In addition, administration of drugs of a natural origin enables to avoid acquired tolerance or addiction and medical dependence, stimulate individual adaptive and protective systems of the body. Administration of preparations of a plant origin for many years in clinical practice is indicative of their efficacy in treatment of many diseases [1, 7, 8].

One more factor influencing a growing trust of customers in preparations of a plant origin is continuous increase of the quality and safety at the expense of introduction of standards concerning proper industrial practice [5].

Objective: to detect the kinds of medicinal raw material being in demand among the customers of chemist's shops and are profitable.

Materials and methods. Every year the need of pharmaceutical enterprises in medicinal herbs becomes 20-25% higher at the expense of increased sales of the old ones and creation of new preparations of a plant origin. Among the plants used in medicine in Ukraine medicinal are 250 species including 150 used in traditional medicine and the rest – in folk medicine only [5].

At present the Ukrainian pharmaceutical market includes more than 20 Ukrainian companies and enterprises working with medicinal raw material. The leaders producing medicinal plant material and pharmaceutical products are joint-stock companies «Liktravy», «Viola», «Lubnypharm», and the public corporation «Ternopil Pharmaceutical Plant».

Dispensing chemists at chemist's shops were surveyed with the aim to detect the demand for medicinal plant material and analyze price-lists with the purpose to determine demand/cost ratio.

The survey and detection of average prices were conducted at chemist's shops in the towns of Berdychiv and Chernivtsi, including the company «Med-service», «Low prices pharmacy», the pharmaceutical network «Harmony», the pharmacy network «D.S.», pharmaceutical enterprises «Tkachuk», «Universytetska №1», «PharmMix» №1 and «Akizum-Pharm» (Table 1).

The price-lists of the major suppliers of medicines to chemist's shops were analyzed, including joint ventures «BaDM», «Optima-pharm, Ltd», «Venta Ltd» and the company «Pharmplaneta» (Table 1).

Table 1

Analysis of prices

Items	Average retail price in chemist's shops, hrn	Average wholesale price of suppliers, hrn
Chamomile flowers 40 g	12,90	10,52
Flax seeds 100 g	8,0	6,42
Pepper mint leaves 50 g	12,50	10,63
Marigold herb 50 g	11,80	9,7
Melissa herb 50 g	16,00	11,33
Oak-tree bark 100 g	11,10	10,75
Marshmallow roots 75 g	14,76	11,7
Calendula flowers 50 g	17,95	12,99
Wild rose fruit 130 g	17,75	13,82
Sage leaves 50 g	18,00	15,25

Results and discussion. The questionnaire of dispensing chemists determined that the customers of chemist's shops most often ask for such medicinal plant as chamomile leaves 40 g, and then in a descending order: Flax seeds 100 g, Pepper mint leaves 50 g, Marigold herb 50 g, Melissa herb 50 g, Oak-tree bark 100 g, Marshmallow roots 75 g, Calendula flowers 50 g, Wild rose fruit 130 g, Sage leaves 50 g.

On an average chemist's shops sale 8-20 packages of Chamomile flowers every day. The demand for this medicinal plant is associated with a wide spectrum of its action and minimal number of contraindications. Chamomile flowers possess anti-inflammatory, spasmolytic, diuretic, anti-allergic, mild sedative, antimicrobial action, increase the activity of the digestive glands, and promote appetite [4].

Chamomile preparations are used internally and externally. They are indicated internally in case of intestinal spasms, flatulence, diarrhea, gastritis, colitis, bronchial asthma, rheumatism, menstrual disorders, liver and urinary bladder diseases, insomnia.

Externally they are used for gargling in case of inflammation of the oral cavity, inflammatory processes of the urinary tract, syringing, irrigation of ulcers, purulent wounds, hemorrhoid nodes, dermatitis, and eczema.

As to the cultivation of chamomile (*Matricaria chamomilla*), keeping to the major technological agricultural methods (winter sowing, planting depth of 0,5 cm, soil moisture) ensures heavy yields of inflorescences with minimal labour inputs.

Conclusion. Therefore, according to the study

conducted chamomile flowers as medicinal raw material is in the greatest demand among the population.

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