## МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ Я УКРАЇНИ

# НАЦІОНАЛЬНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ ІМЕНІ О.О. БОГОМОЛЬЦЯ ФАРМАЦЕВТИЧНИЙ ФАКУЛЬТЕТ

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## ВИПУСКНА КВАЛІФІКАЦІЙНА РОБОТА

на тему:

### РОЗРОБКА СКЛАДУ ВІТАМІННОГО СИРОПУ

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#### Перелік умовних скорочень

АФІ - Активний фармацевтичний

БАР - Біологічно активна речовина

БАС - Біологічно активні сполуки

GMP - Good Manufacturing Practice (англ.)

(Належна виробнича практика)

ДСТУ - Державний галузевий стандарт

України

дфу - Державна фармакопея України

ЛЗ - Лікарський засіб

ЛФ - Лікарська форма

МОЗ - Міністерство охорони здоров'я

НД - Нормативна документація

ПГ - Пропіленгліколь

#### **SUMMARY**

Global changes that have taken place in the pharmaceutical market, the growth of the number of subjects, the decrease in the availability of medicines and pharmaceutical services, aggressive competition in the conditions of the growing financial crisis have led to the need for the introduction of innovative technologies to ensure the financial stability and survival of pharmacy organizations.

The benchmarking method, which is used as an analysis tool aimed at finding and evaluating the most successful examples of doing business by competitors, adapting and implementing innovations, has gained wide popularity in foreign countries.

The demand for this methodical approach to the organization of small and medium-sized pharmacy business is due to the opportunity to quickly and with minimal costs master new technologies and improve the quality of service with a wide range of pharmaceutical services, relying on the best experience of leaders. The trend of depopulation that has developed in recent years, the demographic aging of the nation, the instability of the ecological and economic situation, low availability of drugs, unbalanced and irregular nutrition and, as a result, insufficient intake of vitamins with food, cause a significant increase in morbidity and health care costs. Vitamin prevention of deficiency is becoming an important state problem.

Many authors were engaged in improving the provision of vitamins. Modern pharmaceutical science has accumulated experience in the application of management-marketing business processes in pharmacy organizations, which has been used in many works. However, comprehensive studies on the application of innovative benchmarking technologies to achieve competitive advantages of pharmacy organizations with the aim of improving the quality of medical supplies, in particular vitamins and vitamin complexes, have not been conducted so far.

In this regard, the development of methodological principles for increasing the social and economic efficiency of pharmacy organizations in satisfying consumer preferences in vitamin preparations, strengthening the health of the population based on the application of innovative benchmarking technologies is an extremely urgent problem. In addition, we faced the task of developing and justifying the composition of vitamin syrup. The above determined the choice of the topic, the formulation of the main goal and tasks of the research.

One of the popular liquid medicinal forms are syrups, which, in addition to convenience and ease of use, dosage accuracy, have optimal pharmacokinetic indicators associated with increased absorption, distribution and excretion of LR.

One of the directions of modern pharmaceutical science is research related to the introduction of phytopreparations into medical practice, the study of the chemical composition, and the development of the optimal technology of medicinal products based on LRS. Plant raw materials have a deep relationship with the human body. It is known that plant raw materials, which have a diverse chemical composition, affect the body in different ways. As time goes by, new drugs based on LRS are introduced and pharmacological research reveals new possibilities of plants. One of the promising sources of LRS is holly mahogany. The healing effect of holly-leaved magnolia has a unique composition. Bark, roots and berries are used as vegetable raw materials.

The purpose of our research was to develop the composition, technology and study the properties of syrup based on the extract of holly magnolia berries and other LRS extracts.

Purpose and task: development of methodological principles of the benchmarking strategy to achieve competitive advantages of pharmacy organizations in the medical service of the population with vitamin preparations.

The results. For the first time, the methodological principles of applying innovative benchmarking technology to increase the competitiveness of pharmacy organizations in the field of circulation of vitamin preparations have been developed. Algorithms and methods for assessing the degree of influence of interacting and interdependent socio-economic factors of the environment on consumers of vitamin preparations have been developed. Cause-and-effect relationships of commercial risks in pharmacy organizations were identified, a

classification structure of risk-generating factors of business processes was compiled.

The algorithm of expert assessment of the probability of occurrence of a certain level of losses is substantiated; a predictive correlation-regression model of the influence of internal environment factors on the risk value was built. A "portfolio" of commercial risks of the pharmacy organization was formed.

For the first time, the application of the compliance system - regulation of internal risk management in pharmacy organizations for constant control over compliance with existing legislation and n