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EFFICIENCY AND SAFETY ISSUES OF MODERN MULTI-COMPONENT HERBAL MEDICINES

Monograph



National Technical University of Ukraine
"Igor Sikorsky Kyiv Polytechnic Institute"
Bogomolets National Medical University

Efficiency and Safety Issues of Modern Multi-Component Herbal Medicines

Monograph

Editors: Alexander Galkin, Nadiia Gorchakova

*Approved by
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The monograph summarizes research on the safety and effectiveness of multicomponent herbal medicinals in the treatment of gynecological, hepatobiliary and cardiovascular diseases, as well as herbal antivirals etc. The work covers evidence-based phytotherapy, pharmacotherapy, safety profiles of herbal combinations, and drug development based on them.

This monograph is an important resource for researchers and health professionals interested in the benefits of herbal medicine.

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*The monograph is dedicated to the 125th anniversary of
the National Technical University of Ukraine
“Igor Sikorsky Kyiv Polytechnic Institute”*

INTRODUCTION

Humanity has long used the medicinal potential of plants. Phytopreparations are widely used both in traditional and evidence-based medicine. Medicinal plants are the basis for the development of medicines that are used to treat diseases of all organs and systems. The rapid development of medical chemistry and organic synthesis in the second half of the 20th century somewhat overshadowed the successes of pharmacognosy and phytopharmacology. However, herbal medicines continued to prove their safety and effectiveness. It is worth mentioning the winner of the Nobel Prize in Physiology and Medicine in 2015, Tu Youyou, for the development of drugs based on artemisinin, which is isolated from the *Artemisia annua* and is used to treat malaria. With the rapid development of pharmaceutical chemistry at the turn of the 21st century, the issues of standardization of herbal preparations, which are currently being successfully solved by researchers, became relevant. A permanent trend is a complex approach to the pharmacotherapeutic design of herbal medicines, which involves the combination of several medicinal plants or the inclusion of individual chemical substances (synthetic or natural origin) in the composition of the finished dosage forms. It's obvious that such an approach complicates the task of proving the safety and effectiveness of such medicines, but opens new perspectives in the treatment of current human diseases.

This monograph is a summary of the work of the author's team on substantiating and proving the safety and effectiveness of various phytocompositions, which are medicinal products (fixed combinations) or medical devices. Our efforts were focused on solving the following problems: the use of herbal preparations for the treatment of gynecological diseases with endocrine genesis, disorders of the hepatobiliary system, and cardiovascular diseases.

Particular attention is paid to the development of herbal antiviral drugs, the safety and effectiveness of resveratrol preparations, as well as medical devices containing phytoextracts.

With a focus on evidence-based medicine, the monograph encompasses a wide range of herbal medicine topics. It investigates the utilization of medicinal plants in endocrine gynecology, shedding light on the pharmacotherapeutic substantiation of their use in this specialized area. Additionally, it explores the safety aspects of combining ursodeoxycholic acid, taurine, and artichoke extract in diseases of the hepatobiliary system, providing valuable information for clinicians and researchers in this field.

The monograph also addresses the efficacy profile of a homeopathic combination for the prevention and treatment of influenza and acute respiratory viral diseases. By analyzing the current safety data of complex herbal medicines with sedative and cardioprotective actions, it offers valuable insights into the potential benefits and risks associated with these treatments.

Moreover, the monograph investigates a perspective fixed combination for the treatment of hepatobiliary system diseases, substantiating their pharmacotherapeutic properties and assessing their pharmaceutical quality profile. It also explores the current state of antiviral herbal preparations development, examining the potential applications of plant-based compounds in combating viral infections.

The assessment of plant extracts based medical devices in the form of rectal use suppositories is another important aspect covered in this monograph. By providing a biological assessment of these innovative medical devices, it contributes to the understanding of their effectiveness and potential applications.

Furthermore, the monograph dives into the pharmacological substantiation of new drug elaboration based on resveratrol, a natural compound with diverse therapeutic properties. It explores the possible mechanisms of resveratrol's influence on the reproductive system in ovariectomized rats, shedding light on its potential applications in this area.

Lastly, the monograph investigates the differences in NO/SH-mechanisms of neuron damage in experimental VCD-hypoestrogenemia under the impact of resveratrol. By exploring these mechanisms, it enhances our understanding of resveratrol's potential neuroprotective effects and its implications for neuronal health.

Overall, the chapters of this monograph contribute to our understanding of the efficiency and safety issues surrounding modern multi-component herbal medicines. The comprehensive analysis presented within this work serves as a valuable resource for researchers, healthcare professionals, and individuals interested in the intersection of herbal medicine, pharmacotherapy, and patient care.

The authors believe this monograph will be helpful for specialists in pharmacology, pharmacy, pharmacognosy, biopharmacy, and other healthcare fields. Readers of this monograph will gain valuable insights into the therapeutic potential, safety considerations, and future directions of multi-component herbal medicines, ultimately contributing to the advancement of evidence-based healthcare practices and the well-being of individuals.

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Наукове видання

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Питання ефективності та безпеки сучасних багатокомпонентних фітопрепаратів

Монографія

(Англійською мовою)

У монографії узагальнено дослідження щодо безпеки та ефективності багатокомпонентних рослинних лікарських засобів у лікуванні гінекологічних, гепатобіліарних та серцево-судинних захворювань, а також рослинних противірусних засобів тощо. Охоплено доказову фітотерапію, фармакотерапію, профілі безпеки рослинних комбінацій та розробку лікарських засобів на їх основі.

Ця монографія є важливим ресурсом для дослідників і медичних працівників, які цікавляться перевагами рослинних лікарських засобів.

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