

Review Article

Development of Clinical Pharmacology in the Russian Federation



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ABSTRACT

Purpose: The article aims to provide the history, organization, and approaches to clinical pharmacology in the Russian Federation.

Methods: This article is based on major international and Russian documents, along with groundbreaking historical facts and scientific articles related to the development of modern clinical pharmacology the Russian Federation.

Findings: Improving the quality of drug therapy is the main goal of clinical pharmacology in the Russian Federation. Decisions of the World Health Organization, scientific achievements, and the work of well-known scientists among the world community and in the Russian Federation have strongly influenced the development of clinical pharmacology the Russian Federation. Clinical pharmacology in the Russian Federation addresses a wide range of problems; it actively engages in modern scientific research, education; and clinical practice. Clinical pharmacologists participate in studies of new drugs and often have a specific area of expertise.

Implications: The future development of clinical pharmacology in the Russian Federation will be related to improvements in training, refinement of the framework that regulates clinical pharmacologists, and the creation of clinical pharmacology laboratories with modern equipment. (*Clin Ther.* 2016;38:1218–1226) © 2016 Elsevier HS Journals, Inc. All rights reserved.

Key words: history of clinical pharmacology in the Russian Federation, clinical investigations, health organizations, professional association.

steps that the World Health Organization took to make worldwide use of drugs more rational was the creation of the Study Group on Clinical Pharmacology in Geneva in 1969. The meeting was convened for the following reasons: “first, the need to remedy the storage of clinical pharmacologists that was impeding the implementation of various World Health Organization resolutions on the therapeutic efficacy and safety of drugs; second, the need to demarcate clearly the scope of the new discipline of clinical pharmacology; and, third, the need for drug studies to be carried out in all parts of the world in a scientific and coordinated way because drug responses in humans are influenced not only by their genetic constitution but also by environmental and economic factors.”

Currently, the Russian Federation pharmaceutical market includes >17,000 registered drugs. As such, these drugs provide effective treatment for most known diseases. The active participation of clinical pharmacologists is needed in the process of drug selection for centralized procurements by medical institutions and for the individualization of pharmacotherapy, the prediction of drug adverse reactions, for drug–drug interaction monitoring, or for the treatment of patients with severe diseases who receive a large number of medicines.^{1–5} It is clear that global coordination of the scientific selection and use of drugs is needed to assess their efficacy, safety, treatment, and cost-effectiveness. Moreover, it is imperative to identify the long-term consequences of drug actions for the health of humans.

INTRODUCTION

Currently, clinical pharmacology is among the most rapidly developing fields in medicine. One of the first

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METHODS

This article is based on principal international and Russian documents, historical facts, and scientific articles that document the initial discoveries and current developments in Russian clinical pharmacology.

DISCUSSION

History of Clinical Pharmacology

The history of clinical pharmacology spans more than half a century, beginning with the publication of the first edition of *Clinical Pharmacology* by L. S. Goodman and A. Gilman in 1941. In the Russian Federation, the history of clinical pharmacology has been associated with prominent scientists. The academician B. E. Votchal organized the training of doctors at the Central Institute of Postgraduate Education as the Clinical Pharmacology Chair in the 1950s and 1960s. His book *Sketches of Clinical Pharmacology* was first published in 1963 and remains relevant today, despite its lack of data about modern drugs. The academician M. D. Mashkovsky made a significant contribution to the development of pharmacology and clinical pharmacology; his pharmacotherapy book *Medicines* has remained a valuable textbook for several generations of doctors. Additionally, Professor K. M. Lakin included clinical pharmacology courses on in the curricula of medical and pharmaceutical universities.

In 1970, the I.M. Sechenov First Moscow Medical Institute based on the Central Research Laboratory (the Laboratory of Clinical Pharmacology) was organized. The institute was headed by Professor V.G. Kukes, who now is a member of the Russian Science Academy and head of the Department of Internal Medicine and Clinical Pharmacology at the I.M. Sechenov Moscow State Medical Academy. The systematic teaching of clinical pharmacology began at the Rostov State Medical Institute by the Clinical Pharmacology Chair and was organized in 1976 by Professor N. N. Karkischenko, who is currently the head of the Scientific Center of Biomedical Technologies, Russian Academy of Medical Sciences.⁶

The Volgograd School of Clinical Pharmacology headed by Vladimir I. Petrov remains one of the leaders of Russian clinical pharmacology. On October 1, 1983, the course of clinical pharmacology for subordinates started at the Volgograd State Medical University. From its inception to today, Professor Vladimir Petrov is the head of the department, is an honored scientist of the Russian Federation (RF), an honored doctor of the RF,

and an academician of the Russian Science Academy. In 1987, the course was reorganized as the Clinical Pharmacology, Resuscitation, and Intensive Care. In September 1991, in the Clinical Pharmacology, Resuscitation, and Intensive Care program, the course of Clinical Pharmacology was introduced. In 1991, to develop pharmaceutical services in the RF and create new medicines for domestic use, V. I. Petrov organized the Research Institute of Pharmacology based at the Central Research Laboratory of the Volgograd Medical Institute. Based at the Research Institute of Pharmacology in collaboration with the Departments of Clinical Pharmacology and General Pharmacology, various pre-clinical and clinical studies have been conducted.

Accumulated practical experience, along with the establishment of faculties and courses allowed those in the field of clinical pharmacology to establish educational and research centers, approved by the Higher Certifying Commission in 1982, to yield a scientific specialty 14.00.42 "Clinical Pharmacology," which was later known as 14.03.06 that was combined with the specialty 14.00.25 "Pharmacology." In 1997, based on accumulated national and foreign experience, a specialty "physician-clinical pharmacologist" was introduced into clinical practice (Russian Federation Ministry of Health Order no. 131, dated 5/05/1997). It has since become possible to conduct studies and to grant PhD degrees and doctor of medical and biological sciences degrees in this field.

Additionally, the following textbooks, monographs, and reference books have been published on clinical pharmacology:

- *Clinical Pharmacology*, edited by V. V. Zakusov
- *Clinical Pharmacology with International Drugs Classification*, by V. K. Lepahin et al.
- *Clinical Pharmacology*, by V. G. Kukes
- *Reference Book of Cardiologist for Clinical Pharmacology*, by V. I. Metelitsa;
- *Handbook of Clinical Pharmacology and Pharmacotherapy*, by J. S. Chekman, A. P. Peleschuk, and O. A. Pyatak
- *Pediatric Directory of Clinical Pharmacology*, by V. A. Gusel and I. V. Markova

as well as several other publications not listed here.

In 1970, at the I.M. Sechenov First Moscow Medical Institute, the Clinical Pharmacology Laboratory was established. Subsequently, the position of Clinical Pharmacology and courses at the leading

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