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НАЦІОНАЛЬНИЙ ФАРМАЦЕВТИЧНИЙ УНІВЕРСИТЕТ

**TOPICAL ISSUES OF NEW MEDICINES
DEVELOPMENT**

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Topical issues of new medicines development: матеріали XXVI Міжнародної науково-практичної конференції молодих учених та студентів (10-12 квіт. 2019 р., м. Харків). – Харків: НФаУ, 2019. – 504 с.

Збірка містить матеріали науково-практичної конференції молодих учених та студентів «Topical issues of new medicines development», які згруповано за провідними напрямками науково-дослідної та навчальної роботи Національного фармацевтичного університету. Розглянуто теоретичні та практичні аспекти синтезу біологічно активних сполук і створення на їх основі лікарських субстанцій; стандартизації ліків, фармацевтичного та хіміко-технологічного аналізу; вивчення рослинної сировини та створення фітопрепаратів; сучасної технології ліків та екстемпоральної рецептури; біотехнології у фармації; досягнень сучасної фармацевтичної мікробіології та імунології; доклінічних досліджень нових лікарських засобів; фармацевтичної опіки рецептурних та безрецептурних лікарських препаратів; доказової медицини; сучасної фармакотерапії, соціально-економічних досліджень у фармації, маркетингового менеджменту та фармакоєкономіки на етапах створення, реалізації та використання лікарських засобів; управління якістю у галузі створення, виробництва й обігу лікарських засобів; інформаційних технологій у фармації та медицині; основ педагогіки та психології; суспільствознавства; філології.

Для широкого кола наукових і практичних працівників фармації та медицини.

Book of Abstracts includes materials of Scientific and Practical Conference of Young Scientists and Students «Topical issues of new medicines development». Materials are grouped according to the main directions of scientific, research and educational work of the National University of Pharmacy. Theoretical and practical aspects of the synthesis of biologically active compounds and development of medicinal substances on their basis; standardization of drugs, pharmaceutical and chemical-technological analysis, the study of raw materials and herbal remedies development, modern drug technology and extemporal recipe; biotechnology in pharmacy, modern advances in pharmaceutical microbiology and immunology, clinical trials of new drugs, pharmaceutical care for prescription and OTC-drugs, evidence-based medicine, modern pharmacotherapy, socio-economic studies in pharmacy, marketing management and pharmacoeconomics during the development, implementation and use of drugs, quality management in development, production and trafficking of drugs; information technologies in pharmacy and medicine; basics of pedagogy and psychology; social science; philology are presented.

For a wide audience of scientists and pharmaceutical and medicinal employees.

related to the threat to their own lives (or other person) or physical integrity and caused severe fear, helplessness or horror.

The rate of development of PTSD is 10-15% among people who have been affected by traumatic events. In the United States, in the process of epidemiological research of PTSD, 15% of male veterans and 9% of female veterans were involved in combat operations, and the prevalence of PTSD is 9%.

32% of internally displaced persons in Ukraine have symptoms of post-traumatic stress disorder caused by conflict in the East.

Aim. The aim of the study was to study the experience of modern post-traumatic stress disorder therapy in international medical practice.

Materials and methods. The exploration was held by the analysis of the literature sources – European guidelines, treatment protocols of for the treatment of post-traumatic stress disorder.

Results and discussion. In the therapy of PTSD, practically all groups of psychotropic drugs are used by medicines: antidepressants, tranquilizers, beta-blockers, hypnotics, neuroleptics, in some cases anticonvulsants (mood stabilizers) and psychostimulants. Most often, antidepressants and tranquilizers are used. But the most effective antidepressants of the selective serotonin reuptake inhibitors (SSRIs), drugs that affect the adrenoreceptors, and tranquilizers. Tranquilizers should be assigned a short course, no more than 10 days, due to the risk of dependence. Antidepressants, on the contrary, are drugs for long-term administration. Antidepressants usually need to take at least 6-8 weeks to begin to noticeably reduce the symptoms of PTSD. At the beginning of therapy with anti-depressant drugs, the patient's state of health can get worse, but in the course of treatment, the symptoms of PTSD significantly mitigate and the general condition of the patient improves. Therefore, it is important not to throw or interrupt the intended treatment of PTSD with antidepressants.

The choice of pharmacological preparations and psychotherapeutic techniques is determined by the content and features of the clinical picture, as well as the personality and physiological characteristics of the patient.

SSRIs ease depression by increasing levels of serotonin in the brain. Serotonin is one of the chemical messengers (neurotransmitters) that carry signals between brain cells. SSRIs block the reabsorption (reuptake) of serotonin in the brain, making more serotonin available. SSRIs are called selective because they seem to primarily affect serotonin, not other neurotransmitters.

The maximal benefit from SSRIs treatment depends on adequate doses and duration of treatment, so ensuring compliance with the treatment regimen is the key to successful PTSD pharmacotherapy. Some typical dosing ranges for SSRIs in the treatment of post-traumatic stress disorder (sertraline 50 mg to 200 mg per day, paroxetine 20 to 60 mg per day, fluoxetine 20 to 60 mg per day, escitalopram 10 to 30 mg per day). Among all SSRIs, sertraline and paroxetine (both approved by the FDA) have the most proven evidence of efficacy in PTSD.

Conclusions. PTSD is treated with the help of psychotherapy and medicines. It should be emphasized that the paradigm in the treatment of PTSD has been changed from the use of pharmacotherapy as the main method of treatment to reduce the symptoms of PTSD to a new one, in which the main role plays psychological rehabilitation pharmacotherapy is considered as an important complement to psychotherapy. In pharmacotherapy of PTSD drugs of the first choice remain antidepressants of the SSRIs group.

MODERN PHARMACOTHERAPY OF THE TRAVELERS' DIARRHEA

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Introduction. Diarrhea of travelers is considered to be the most widespread disease of people in travels. From 20 to 60% of travelers suffer for diarrhea of travelers, other sources report that from 30 to

70% of travelers suffer that disease. In the United States, of the 1,000 cases of travelers who returned from travel, 335 cases are related to diarrhea.

Aim. Studing of modern standards of medical care for travelers with diarrhea.

Materials and methods. We conducted an analysis of articles, an adapted clinical guideline based on evidence, a unified clinical protocol providing medical care for patients with travelers' diarrhea.

Results and discussion. The main way of symptomatic treatment of diarrhea is rehydration. For most patients with mild or moderate dehydration (loss of $\leq 9\%$ of body weight), rehydration may be performed orally in outpatient settings. For this purpose, an oral glucose-electrolyte rehydration solution is used – Rehydron, Gastrolit, Orsol. Severe dehydration (loss $> 9\%$ of body weight) or symptoms of hypovolemic (dehydration shock) is an indication for immediate hospitalization and conduction of intravenous infusions of crystalloids – Acesol, Disol, Ringer solutions, Trisol. As a symptomatic therapy for patients with travelers' diarrhea are advised to use anti-diarrheal drugs. Among them are the drugs that suppress intestinal peristalsis – loperamide, which is considered as an additional remedy in patients with watery diarrhea, which runs without a fever or with a slight fever. Anti-diarrheal microbial agents containing probiotic microorganisms such as *Lactobacillus rhamnosus* GG, *Saccharomyces boulardii* may be useful adjunct to the treating of watery diarrhea with confirmed or possibly viral etiology. Empirical antibiotic therapy is recommended for patients with moderate or severe diarrhea, and in the absence of the result of symptomatic treatment (fluoroquinolones: levofloxacin, ciprofloxacin, ofloxacin, macrolides: azithromycin, antimicrobials used in intestinal infections, antibiotics: rifaximin.) Antibiotic prophylaxis is recommended for patients who are burdened with high risk of bacterial diarrhea and its complications, or people traveling for a short time in important cases.

Conclusion. Thus, we have learned and analyzed the current standards of medical care for patients with travelers' diarrhea according to which symptomatic treatment and empirical antibiotic therapy are recommended for patients.

MODERN PHARMACOTHERAPY OF HELMINTIC INFECTIONS

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Introduction. Helminthic infections are parasitic diseases of a person caused by different representatives of lower worms (helminthes). The prevalence of these diseases is very high all over the world. Ascariasis and Enterobiasis is one of the most common diseases. An estimated worldwide prevalence of 804 million people had ascariasis. In Ukraine there are about 1100 cases per 100 thousand people had enterobiasis. Preferably these are children.

Aim. Study of modern standards of medical care for patients with helminthic infections.

Materials and methods. We conducted an analysis of articles, an adapted clinical guideline based on evidence, a unified clinical protocol providing medical care to patients with ascariasis and enterobiasis.

Results and discussion. Early symptoms of ascariasis include cough, dyspnea, wheezing, urticaria, hemoptysis, and chest pain. Abdominal pain, distension, colic, nausea, anorexia, and intermittent diarrhea may be manifestations of partial or complete intestinal obstruction by adult worms. Pruritus ani and pruritus vulvae are common presenting symptoms of enterobiasis. Enuresis may be a symptom in children with pinworms.

The goals of pharmacotherapy are to eradicate infestation, to prevent complications, and to reduce morbidity. Albendazole 400 mg one dose orally is the drug of choice for ascariasis in stable patients older than 12 months with uncomplicated infection. Alternative therapy is mebendazole (100 mg bid for 3 days). Albendazole and mebendazole is not recommended during pregnancy. Pyrantel pamoate is the drug of choice in these cases. As an alternative to albendazole and mebendazole, ivermectin can be given in a dose of 150-200 micrograms/kg bodyweight.

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