

Анотації наукових робіт

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PECULIARITIES OF STATE POLICY CONCERNING COUNTERACTING ADDICTIVE HEALTH DISORDERS IN WOMEN

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The aim of the research: to study the characteristics of the state policy on counteracting the spread of addictive health problems among women through an integrated approach that involves the clarification of unresolved issues, the consideration of the consequences of substance abuse among women and analysis of the legal framework of pharmacotherapy for these women.

Materials and methods: The materials of the study included the data of the scientific literature, Internet resources, statistics of the Ministry of Health care and Ministry of Internal Affairs of Ukraine, legal documents. The study used documentary techniques, legal, graphic, system analysis, forensic and pharmaceutical monitoring.

Results: The study of the problem revealed that despite numerous state programs aimed at counteracting the spread of addictive disorders, the following issues still are to be resolved: illegal transit of psychoactive substances on the territory of Ukraine often with the participation of women; the low level of women's awareness of the consequences of the spread and substance abuse, especially during pregnancy and lactation; low levels of medical and pharmaceutical care for women with health and addictive disorders, etc.

Conclusions: An effective pharmacotherapy is required to counteract substance abuse among women. A comprehensive approach to the problem of combating the spread of addictive health problems among women was proposed, which involved elaborating the main stages, directions and methods of analysis with outlining the expected results.

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RETROSPECTIVE ANALYSIS OF PHARMACEUTICAL INSTITUTIONS PERSONNEL IN UKRAINE DURING 1913-1940 AND 1950-1980

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The aim of the research: To conduct a retrospective analysis of pharmacy personnel resources in the postwar period after certain efforts to restore pharmacy chain, stores and other branch structures during the following

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periods: 1913-1940 and 1950-1980.

Materials and methods: The object of our study involved retrospective historic sources, official analytical reports. The main methodological strategies for research methods included: historical research, hierarchical, faceted, empirical, statistical, graphologic methods of evidence-based pharmacy.

Results: The paper presents reliable (official) data on current indicators of availability, distribution, correlation between pharmacists and qualified pharmaceutical chemists in Ukraine during the following periods: 1913-1940 and 1950-1980.

Conclusions: The comprehensive retrospective analysis of pharmaceutical institutions personnel in Ukraine during 1913-1940 and 1950-1980 was conducted. The presented data revealed positive (or negative) experience of pharmaceutics and they can be used for the comparison with up-to-date requirements to pharmacy.

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THERAPY OPTIMIZATION OF POSTPARTUM IRON DEFICIENCY ANEMIA

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The aim of the research: therapy optimization of postpartum iron deficiency anemia using by means of (III)-hydroxide sucrose complex for intravenous administration (Venofer).

Materials and methods: The study involved 50 patients in the postpartum period diagnosed with postpartum iron deficiency anemia according to criteria established by WHO. Hematological parameters were defined by routine methods, the research was conducted in SYNEVO Ukraine clinical laboratory.

In order to correct anemia, Venofer was administered intravenously. Hematological parameters and iron balance were determined on the 1st day after labor, the day after intravenous administration of Venofer and on the 7th day after labor.

Results: Pregnancy ended in delivery through birth canal in 34 patients, cesarean section – in 15, application of obstetric forceps – in 1 case. The average blood loss during delivery through the birth canal was 210.9±49.8 ml, during cesarean section – 631.0±79.4 ml. According to hematological parameters of the 1st day after labor, patients were divided into three groups: mild anemia (Hb 90-109 g/l) – 30 women; moderate anemia (Hb 70-89 g/l) – 11 patients; severe anemia (Hb<70 g/l) – 9 patients. The research of hematological parameters after administering Venofer showed: in case of mild anemia the increase in hemoglobin level was 13.5 g/l; moderate anemia – 12.7 g/l; severe anemia – 17.1 g/l. In moderate and severe stages of anemia, hemoglobin levels did not reach the standard indicators that required further treatment with Venofer dose adjustment. In analyzing the parameters of iron metabolism, the greatest increase was observed in moderate and severe degrees of anemia.

Conclusions: Venofer may be considered an effective means of treatment of postpartum iron deficiency anemia. Administration of injectional iron medication in case of gestational process complication is safe and pathogenetically proved.

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STUDYING DYNAMICS OF COMPATIBLE EXTRACTING RAW MATERIAL MIXTURES

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The aim of the research: determining analytical dependences for calculating proper particle sizes in grinding raw materials of different morphological organs aimed at simultaneous achievement of specified degree of taking biologically active substances with their compatible extracting.

Methods and results: A series of experiments in an extractor with a stirrer was performed (grinding size 3 mm) to study the dynamics of extracting valerian acid from the grounded raw material.

Results: Analytical dependences that describe the dynamics of extracting valerian acid and other bioactive substances from the medical raw materials of different morphological organs were determined. The system of obtained analytical correspondences enables to calculate the degree of grinding raw material of different morphologic organs with the aim of simultaneous achievement of specified extraction degree in case of compatible extracting.

Conclusion: The obtained results proved that increased grinding valerian rhizome (in three times) caused corresponding reduced duration of extracting valerian acid. Therefore, an efficient method of calculating particle size of raw material in compatible extracting was proposed.

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STUDYING HEALTH CONDITION OF FUTURE PHYSICIANS

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The aim of the research: The scientific substantiation of the developing prophylactic and rehabilitative programs for health preserving of future doctors due to examining their disabilities.

Materials and methods: The research was performed on the basis of analysis results of 2594 clinical examination cards (f. No. 131/o) of medical faculties students at Danylo Halytsky Lviv National Medical University (LNMU). The collected primary scientific material was analyzed with medical and statistical, structural and logical methods taking into account the system principles.

Results: The research revealed that 5,4% of all students of both medical faculties of Danylo Halytsky Lviv National Medical University had disabilities. The highest number of students with disability types was observed among the 1st-year students, the lowest – among the 6th-year students. The most frequent causes of disability were: diseases of the endocrine system, eating disorders and metabolic disturbances; congenital malformations, deformations and chromosomal abnormalities; diseases of the musculoskeletal system and connective tissue.

Conclusions: There is a need for processing and implementing organizational and functional model of preventing risk factors that negatively impact health condition of medical faculties students as the basis of management of health condition of future physicians. Thus, there is an urgent need to develop the prophylactic and rehabilitative programs for preserving health of medical faculties students.

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ANTIBACTERIAL EFFECT OF NANOCOMPOUND CONTAINING THIOTRIAZOLINE AND SILVER NANOPARTICLES

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The aim of the research: to study antimicrobial effect of new nanocompound containing silver nanoparticles (SNP) and thiotriazoline due to concentration of clinical and reference strains of gram-positive and gram-negative microorganisms at different time of the day.

Materials and methods: antibacterial effect of thiotriazoline substance with different concentration of silver nanoparticles (1.9; 0.95; 0.45; 0.025; 0.12; 0.06; 0.024; 0.012; 0.006 mg/ml) on clinical and reference strains of *Staphylococcus aureus*, *Pseudomonas aureginosa*, *Haemophilus influenzae*, *Streptococcus pyogenes*, *Escherchia coli* was assessed by standard method of substance agar diffusion (diffusion test) at different time of the day (at 8 a.m., 12 p.m., 6 p.m.).

Results: the study determined that at 8 a.m. and 12 p.m. thiotriazoline substance containing silver nanoparticles in different concentrations did not exert bacteriolytic effect on all the strains under investigation. Only *H. Influenzae* strains were moderately susceptible to the substance in concentration of 1.9 mg/ml and 0.95 mg/ml at 12 p.m. It was found that at 6 p.m. thiotriazololn substance with SNP in all concentrations showed high antibacterial activity regarding clinical strains of *S. aureus* and *P. aureginosa*. Antibacterial action of thiotriazoline substance containing SNP on clinical strains of *E. coli* was detected only in concentrations of 1.9 mg/ml and 0.95 mg/ml, *H. influenzae* – 1.9 mg/ml, 0.95 mg/ml, 0.45 mg/ml, *S. pyogenes* – 1.9 mg/ml; 0.95 mg/ml; 0.45 mg/ml; 0.25 mg/ml; 0.12 mg/ml and 0.06 mg/ml at this time of the day.

Conclusions: At 8 a.m. and 12 p.m., thiotriazoline substance with SNP did not show bacteriolytic effect on clinical strains in the whole range of concentrations under investigation. Only at 6 p.m., *S. aureus*, *P. aureginosa*, *H. influenzae*, *S. pyogenes* and *E.coli* showed high sensitivity to the substance compared to reference strains that showed high sensitivity to the substance in all concentrations regardless of time of the day.

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INFLUENCE OF KASDENT DENTAL TINCTURE ON MUCOSA OF RATS WITH INDUCED GINGIVITIS

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The aim of the research: to examine the effectiveness of a new tincture Kasdent for treatment of experimental gingivitis in rats; to compare the pharmacological activity of Kasdent tincture with Fitodent tincture.

Materials and methods: The study involved 24 white mongrel male rats divided into 4 groups of 6 animals: 1 – intact control, 2 – rats with experimental gingivitis, 3 and 4 – treatment with Kasdent and Fitodent tinctures. The experimental gingivitis was caused by daily intragastric administration of lincomycin solution at a dose of 60 mg/kg for 5 days, then bee venom suspension was applied to gingival mucosa of rats at a concentration of 2 mg/ml in a volume of 1-2 ml/animal for 8 days. The clinical signs of mucosa lesion were studied using scores by V.V. Sokolovsky, white blood cells and sedimentation rate of white blood cells (ESR) over time were studied immediately after the simulation of pathology, in 5 and 9 days of treatment. The levels of acid phosphatase (ACP) and alkaline phosphatase (ALP) in gingival mucosa of rats were determined, indices of pro/antioxidant system – products that react with thiobarbituric acid (TBA-active products) [8] and reduced glutathione (G-SH) were studied.

Results: Treatment with Kasdent dental tincture for 5 days reduced the mucosa inflammation by 2.3 times in comparison with the pathology group. The number of white blood cells decreased against the pathology group, but ESR remained within the pathology values. Gingival mucosa lesion almost disappeared after the treatment with Kasdent tincture for 9 days, white blood cells and ESR were at the control level. ACP and ALP activity in gingival mucosa of rats was normal. Indices of pro/antioxidant balance (TBA-active products and G-SH) were significantly different from that of the pathology group and were in the range of control values.

Conclusions: Analysis of the data showed that Kasdent dental tincture had the anti-inflammatory action when used in the treatment regime. It reduced the inflammation of mucosa, normalized clinical, biochemical and hematological parameters. The intensity of repair processes proved the advantages of Kasdent over Fitodent.

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MORPHOLOGICAL CHANGES, COMBINED COMPLICATIONS AND GENDER DYNAMICS OF DUODENAL ULCERS COMPLICATED WITH BLEEDING

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The aim of the research: To analyze morphological descriptions of duodenal ulcer bleeding (DU), age and gender dynamics, combined complications of ulcer, and also duodenal ulcer history, for two periods – 2004–2008 and 1994, 1996.

Material and methods: The study objects involved 2285 patients with acute duodenal ulcer bleeding (ADUB) treated in the surgical clinic of the Kiev center of gastrointestinal bleeding during 2004-2008 (basic group, 1630 patients) and in 1994, 1996 (control group, 655 patients).

Results: Clinical manifestations and course of ADUB in comparison with the previous period (1994, 1996) revealed considerable increase of patients older 70 years – in 1,7 times, rate of ulcers on a lateral wall – in 1,84 times, on a medial wall – in 3,9 times, on posterior-lateral wall – in 1,36 times and on posterior-medial wall of duodenal bulb (it can be caused by peculiarities of duodenal bulb angioarchitectonics and more superficial location of greater vessels in a submucous layer of ulcer areas); decrease of giant ulcers rate (>2 sm) – in 1,51 times, with unexplained increase among the operated patients – in 1,37 times ($p=0,4316$) (patients with the considerable ulcers were operated more frequently). Combination of complications of DU was characterized by considerable decrease of indicators: *B* (bleeding) + *Pen* (penetration) – in 14,29 times, *B* + *S* (stenosis) – in 23,03 times, *B* + *S* + *Pen* – in 29,67 times. Admission frequency of patients with repeated ulcerous bleeding diminished in 1,64 times (from 11,3 to 6,87%). The relative number of patients with ulcerous anamnesis reduced

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in 1,45 times. It can be accounted for the fact that duodenal ulcers are commonly identified when they are complicated with gastrointestinal bleeding.

Conclusions: The peculiarities of clinical manifestations and course of ADUB involved increased number of elderly patients, frequency of ulcer localization on lateral, medial, posterior-lateral and posterior-medial walls of duodenal bulb, considerable decrease of combined complications of DU, reduced number of patients with repeated ulcerative bleeding, decreased number of patients with duodenal ulcerous history.

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DIFFERENTIATION OF TUMULAR FORMATIONS OF LUNGS BY MEANS OF TRANSTHORACIC BIOPSY UNDER CONTROL OF COMPUTER TOMOGRAPHY

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The aim of the research: to analyze CT-guided percutaneous transthoracic needle aspiration biopsy (CT-guided PTNAB) as a method of differential diagnosis of malignant lung growths; determine their genesis; provide timely and adequate surgical treatment method.

Materials and methods: We analyzed the diagnostics and treatment of 98 patients with tumor like growths/lesions of the lungs. We observed 37 women and 61 men. The patients' age was from 23 to 63. CT-guided PTNAB was performed for the above mentioned individuals. CT-guided PTNAB indications were: tumor like lesions of the lungs and pleura, rounded shadows of unknown origin, lesions: more than 1.5 cm in size, depth location – from the initial origin near the costal pleura up to 7 cm deep into lung tissue. CT-guided TNAB conducted with trocar 18 Gauge, local anesthesia – sol. novocaine 0,5% or sol. lidocaine 0,5%. Point of trocar insertion was determined with the help of CT and then the depth of Gauge insertion was calculated. After trocar insertion deep into lung tissue of tumor like formation, control computer tomography assessment was performed once again and depth location was compared with the previous one. At a certain conformity, biopsy specimens were taken for histological study.

Results: After histological verification 80 patients (81.6%) had malignancy. Of these, adenocarcinoma was found in 47 cases (58.8%), bronchoalveolar carcinoma – in 8 cases (10%), squamous cell carcinoma – in 12 patients (15%), small cell lung carcinoma – 8 (10%), lung carcinoid – 2 cases (2.5%). Pleural mesothelioma was diagnosed in 3 cases (3.8%). Benign neoplasms were found in 5 cases (5.1%). Tuberculoma was diagnosed in 7 cases (7.1%), non-Hodgkin's lymphoma – in 2 (2%), Hodgkin's lymphoma – in 1 (1%). Limited exudative processes in the lungs of tuberculosis etiology were detected in 3 patients (3.1%). Thus, malignant neoplasms (81.6%) are prevalent groups versus benign cases, detected by CT guided TNBA pathology of the lungs. Among malignant cases, the number of non- small cell lung cancers (adenocarcinoma, bronchoalveolar and squamous cell carcinoma accounted for 83.8%) prevailed.

Conclusion: usage of CT-guided percutaneous transthoracic needle aspiration biopsy procedure helps in diagnosing tumorlike growths of lungs located both peripherally and at a sufficient distance from costal pleura. In our study, the percentage of verified diagnoses was 88.8%.

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CLINICAL FEATURES OF COMMUNITY ACQUIRED PNEUMONIA INFANTS BORN WITH LOW AND VERY LOW BODY WEIGHT

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The aim of the research: to evaluate the clinical course of community acquired pneumonia in infants with low (LBW) and very low body weight (VLBW).

Materials and methods: a complex clinical, laboratory and instrumental examination of 53 infants with community-acquired pneumonia born with low (LBW) and very low birth weight (VLBW) was performed.

Results: Most children (87%) with community-acquired pneumonia had cough, respiratory insufficiency of I-II stages, and intoxication symptoms. The course of community acquired pneumonia in most cases (69,81%) was characterized by the absence of temperature reactions. Physical examination of respiratory organs revealed a shortening of the respiratory percussion sound in 28 (52.83%) patients. Auscultation revealed that 71.70% of infants had weakened breathing, crepitation and fine moist rales. Bilateral pneumonia with focal pulmonary affection (50.94%) was prevalent. Complications of community acquired pneumonia such as secondary cardiovascular (28.30%) and hypoventilation syndrome (13.21%) were conspicuous in examined infants.

Conclusions: It was found that respiratory insufficiency of the I (42.90%) and II (46.42%) stages were prevalent in most infants with community acquired pneumonia born with low body weight. However, infants with VLBW mostly had respiratory insufficiency of II (48%) and III stages (32%) ($p < 0.05$). The course of community acquired pneumonia in most cases (69.81%) was characterized by the absence of temperature reactions. Cardiovascular (28.30%) and hypoventilation syndrome (13.21%) were prevalent complications.

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PHARMACEUTICAL WASTES AS A SERIOUS PROBLEM OF THE ECOLOGICAL SYSTEM «HUMAN BEING – MEDICINE – ENVIRONMENT»

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The aim of the research: scientific generalization of theoretical principles and functional modeling of the environmental system «Human being – medicine – environment» in terms of pharmaceutical waste hazard.

Materials and methods: the flow of information concerning the treatment of pharmaceutical wastes. Methods used: contextual text analysis, functional modeling and modeling of terms in scientific language.

Results: It was shown that ecotoxicology explores comprehensive direct and reverse interrelations between human beings and environment. The interrelation between the place of accumulating pharmaceutical wastes and life cycle stages of drug was studied.

The main centers of accumulating pharmaceutical wastes in the environment, pollution types, their direct and indirect objects were described. It was determined that the ecological risk assessment of the system «Human being – medicine – environment» is carried out by ecopharmacology and its components – ecopharmacovigilance and pharmacoenvironmentology.

Conclusions: The article presents the results of determining internal unity of the ecological system «Human being– medicine – environment» on the basis of content abstraction and generalization in terms of adverse effects of pharmaceutical wastes. The regularity and necessary interconnection of system components were revealed and represented as a functional model. The following definitions were studied: «drug lifecycle», «assessment of environmental risk of pharmaceutical wastes», «ecopharmacology», «ecopharmacovigilance» and «pharmacoenvironmentology».

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COMPARATIVE ANALYSIS OF ADMINISTERING MEDICATIONS BY PATIENTS WITH ACUTE CEREBROVASCULAR ACCIDENTS IN HOSPITALS

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The aim of the research: determination of objectivetendencies for administering medications; optimization of medicine provision for patients with acute cerebrovascular accident (ACVA) in hospitals.

Materials and methods: Objects of the research involved hospital records and medication lists (ML) of inpatients with ACVA or remote consequences of cerebrovascular disturbances treated in neurological departments of Lviv Regional Clinical Hospital (LRCL) (262 hospital records, and 236 ML), Lviv Public Clinical Emergency Hospital (LPCEH) (371 hospital records and ML) and one central district hospitals (CDH) of Lviv region (73 hospital records and ML). Retrospective, clinical and epidemiological methods, content, frequency, ABC and ATC/DDD analyses were applied. Program Statistica 10 Trial was used for statistical analysis of data. Qualitative (gender) and quantitative indicators (age, number of concomitant pathologies (SP) and the duration of treatment) were compared. The average value was determined for the studied parameters and the limits of 95% confidence interval (CI) were indicated. Normality of data distribution in the samples was evaluated using the Shapiro-Wilk test. It was determined that the distribution of data was not normal. Therefore, non-parametric methods of their assessment were used. Comparison of quantitative indicators was performed with Kruskal-Wallis test and for quality indicators - with Pearson's chi-squared test (χ^2). The differences were considered significant at $p < 0.05$.

Results: Clinical and epidemiological analyses conducted in neurological departments of three hospitals revealed that ACVA predominantly occurred in men. Ischemic stroke prevailed among cerebrovascular accidents (in patients of LPCEH – in 81,7% of cases, in patients of CDH – in 72,6% of cases and in patients of LRCL – in 53,8% of cases). ACVA was often accompanied by concomitant diseases, usually diseases of the cardiovascular system, especially hypertension.

Comparative analysis of taking medicines with frequency, ABC and ATC/DDD tests showed its structure and peculiarities in different hospitals in the context of the main anatomical groups (the 1st level of ATC-classification), therapeutic subgroups (the 3rd level of ATC classification) and each drug (nomenclature, frequency of prescribing and defined daily dose).

Conclusions: Results of the research can be used to optimize the provision of medicines for patients with ACVA in hospitals with different levels of care.

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ISOLATION AND PURIFICATION OF OLANZAPINE FROM BIOLOGICAL MATERIAL

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The aim of the research: Contemporary physico-chemical methods of analysis need highly purified samples. Improvement of flash-chromatography purification technique of infuses from biological material containing olanzapine was the aim of our investigation. Purified samples were examined by GC-MS.

Materials and methods: Olanzapine was isolated from 25 g of liver by water acidified with oxalic acid and purified on the GraceResolv columns. The 0.5 % ammonia solution in 96% ethanol was an eluent. GC-MS on HP-1 (30 m × 0.25 mm × 0.25 μm) column was applied for olanzapine quantification.

Results: Olanzapine was identified on retention time (8.164±0.067 min) and mass-spectra. Limit of olanzapine detection in liver tissue was 20 ng/g; limit of quantification – 32 ng/g. Linear diapason of quantification ranged from 25 to 500 μg of olanzapine in 25 g of liver. This technique allowed isolating 90-95% of olanzapine (RSD≤ 5.23%) at 4 hours, and 87-91% (RSD≤6.3%) at 24 hours after poisoning.

Conclusions: Conditions of water extracts from liver purification by flash-chromatography on the GraceResolv columns were elaborated. Conditions of olanzapine identification and quantification by GC-MS on capillary HP-1 column were proposed.

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SYNTHESIS OF S-ALKYLATED 1,3,4-OXADIAZOLE-3-THIOL DERIVATIVES CONTAINING DICLOFENAC AND IBUPROFEN FRAGMENTS IN MOLECULES

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The aim of the research: Non-steroidal anti-inflammatory drug (NSAIDs) are the most preferred class of drugs in the treatment of various pathological conditions such as pain, fever, inflammatory diseases and rheumatoid arthritis. The beneficial effects of NSAIDs are always balanced by their side effects; the major undesirable effect being related to the gastrointestinal system. A conceptually new approach for developing gastrointestinal-sparing NSAIDs is the addition of a nitric oxide (NO)-releasing moiety to classical NSAIDs, producing the NO-NSAIDs, also sometimes known as CINODs (cyclooxygenase inhibitory NO donors). Generally, most NSAIDs are organic acids, and this property is of importance for their pharmacokinetics, gastrointestinal ulcerogenicity, certain biochemical actions, especially their inhibitory potency as prostaglandin synthesis inhibitors. One of the most perspective directions of the optimization of drug-like molecules, which allows to save or strengthen their pharmacological profile and reduce toxic properties, is the modification of carboxyl group into the 1,3,4-oxadiazole ring system. Moreover, the 2-mercapto-1,3,4-oxadiazole core is a significant pharmacophore fragment associated with a wide range of biological activity such as antifungal, anticancer, antiviral, antioxidant, etc.

Materials and methods: 2-[(2,6-Dichlorophenylamino)phenyl]acetic and 2-(4-isobutylphenyl)propionic acids hydrazides were employed as starting materials and prepared according to the methods described previously. Melting points were determined using a polarizing optical microscope NAGEMA-K8 equipped with a heating table Boetius (NAGEMA, Germany) and digital thermometer «Ama-digit ad 14 th», heating rate 4 °C/min. The elemental analyses (C, H, N) were performed using a Perkin-Elmer 2400 CHN analyser. The ¹H NMR spectra were recorded on Varian VXR-400 spectrometer using DMSO-*d*₆ as a solvent and tetramethylsilane (TMS) as an internal standard. Chemical shifts were reported in ppm units with use of δ scale.

Results: The cyclization reaction of 2-[(2,6-dichlorophenylamino)phenyl]acetic and 2-(4-isobutylphenyl)propionic acids hydrazides with carbon disulfide and potassium hydroxide in ethanol medium yielded the corresponding 5-substituted 1,3,4-oxadiazole-2-thioles. Further chemical modification was performed via S-alkylation reactions with N-substituted 2-chloroacetamides based on aromatic amines, 3,5-dihydropyrazolines and 2-amino-5-benzylthiazole derivatives. Thus, a series of new S-alkylated 1,3,4-oxadiazole-2-thiol derivatives with

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2-(2,6-dichlorophenylamino)benzyl and 1-(4-isobutylphenyl)ethyl fragments in molecules was obtained. The structures of synthesized compounds were proved by NMR spectroscopy and elemental analysis. Analyses indicated by the symbols of the elements of functions were within $\pm 0.4\%$ of the theoretical values. In the ^1H NMR spectra the protons of isobutyl fragment for ibuprofen derivatives (**1b**, **3c-e**, **4c**) showed two singlets at $\delta \sim 0.80\text{-}0.88$ ppm for methyl groups, multiplet for CH-group at $\delta \sim 1.72\text{-}1.86$ ppm and doublet which corresponds methylene group at $\delta \sim 2.36\text{-}2.43$ ppm. For the aromatic protons of diclofenac fragment (compounds **1a**, **2a**, **2c**, **3a-b** and **4a-b**) three doublets and three triplets at $\delta \sim 6.19\text{-}7.53$ ppm were observed, NH-proton of biphenylamino group appeared as a singlet. The proton of amide group CONH showed a singlet or broad singlet at $\delta \sim 10.31\text{-}10.75$ ppm (**3a-e**) or $\delta \sim 12.22\text{-}12.39$ ppm (**2a**, **2c**).

Conclusions: Based on S-alkylation reaction, the synthesis of novel 2-(1,3,4-oxadiazole-2-yl)sulfanyl substituted N-aryl(thiazol-2-yl)acetamides and 1-(3,5-diaryl-4,5-dihydropyrazol-1-yl)ethanones containing diclofenac or ibuprofen moiety in 5 position was performed. The structures of synthesized compounds were significantly proved by NMR spectroscopy and elemental analysis.

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