



MARKETING ANALYSIS OF THE ASSORTMENT OF DICLOFENAC SODIUM DRUGS ON THE PHARMACEUTICAL MARKET OF UKRAINE

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Abstract. *The article highlights the problems of the development and progression of rheumatic diseases, with damage to connective tissue, which leads to organ damage and loss of functional capacity. The main direction of conservative treatment is the use of nonsteroidal anti-inflammatory drugs, among which diclofenac sodium is an effective drug of choice. Taking into account the wide range of use of diclofenac sodium in clinical practice, the article presents the results of a comprehensive marketing analysis of the structure of the domestic pharmaceutical market of the range of medicines with the active ingredient diclofenac by producing countries and the variety of dosage forms.*

Key words: *diclofenac sodium, non-steroidal anti-inflammatory drug, marketing analysis, assortment.*

Introduction. Rheumatic diseases are the most common cause of disability, which includes a heterogeneous group of connective tissue diseases (dermis, tendon-ligamentous apparatus, cartilage, bone tissue, synovial and serous membranes, basement membranes of vessels, etc.), which has a multifactorial and not fully understood etiology [1]. Disease progression ultimately leads to organ damage, functional disability, premature death, and economic and social burden. The main clinical manifestations are the development of a progressive inflammatory process with pronounced pain syndrome [2, 3]. Conservative treatment mainly includes non-steroidal anti-inflammatory drugs (NSAIDs) still remain the most effective and frequently used means for the treatment of this pathology [4]. NSAIDs currently have the most clinical evidence and are the most widely used analgesics. They mainly block the metabolism of arachidonic acid by inhibiting cyclooxygenase, reducing the production of prostaglandins, to achieve an anti-inflammatory and analgesic effect. Most NSAIDs can stimulate the gastrointestinal tract and cause ulcers, as well as affect kidney function and platelets. Some studies have shown that specific COX-2 inhibitors can reverse the imbalance of chondroproteoglycan metabolism mediated by



inflammatory cytokines, restore chondroproteoglycan content and promote their repair.

Diclofenac sodium, a phenylacetic acid derivative, is a nonsteroidal anti-inflammatory, analgesic agent recommended for use in rheumatoid arthritis, degenerative joint disease, ankylosing spondylitis, and related conditions, as well as for the treatment of pain resulting from minor surgery, trauma, and dysmenorrhea [5, 6]. On the pharmaceutical market, it is presented in various dosage forms, which allows you to use the drug both in chronic conditions and in case of exacerbation of the disease [7]. The mechanism of action of the drug is based on the non-selective inhibition of cyclooxygenase (COX-1, COX-2), and the physiological effect of this substance is due to a decrease in the production of prostaglandins, revealing a typical triad of pharmacological effects - analgesic, anti-inflammatory and antipyretic [8]. Since diclofenac penetrates the synovial fluid, where its maximum concentration is reached 2-4 hours later than in the blood plasma, that is why the drug is the drug of choice for inflammatory and degenerative forms of rheumatic diseases [9, 10].

The study aims to conduct a marketing analysis of the range of diclofenac sodium drugs registered in the pharmaceutical market of Ukraine, and to determine the prospects for their further use in medicine.

Research materials and methods.

The object of the study was the nomenclature of medicinal products with the active ingredient diclofenac sodium, which are presented on the pharmaceutical market of Ukraine and entered into the State Register of Medicinal Products of Ukraine [11]. Diclofenac drugs, which according to the international ATC classification belong to the pharmacological group - Nonsteroidal anti-inflammatory drugs, were taken into account. ATX code M01AB05, according to the state classifier. The research used the methods of marketing analysis of the assortment of medicines and statistical processing of the obtained data [12].

Research results and their discussion.

According to literature data, the range of use of diclofenac sodium in clinical practice is quite wide and includes its use in inflammatory and degenerative joint diseases (rheumatoid arthritis, ankylosing spondylitis, arthrosis and spondyloarthritis, periarteritis, tendoperiarthritis, tendoperiostitis, fibrositis); rheumatic diseases of soft tissues; pain symptoms in the spine, neuralgia, myalgia; with pain syndrome and inflammation after operations and injuries; primary dysmenorrhea, adnexitis, proctitis; as an auxiliary agent for infectious and inflammatory diseases of the ENT-organs; with kidney ring, etc.

According to the results of the marketing research, it was established that 105 names of medicinal products with the active ingredient diclofenac sodium are registered in the pharmaceutical market of Ukraine. Among them, 17 items are combined drugs. Effective combinations are the combination of sodium diclofenac with lidocaine hydrochloride, menthol, methyl salicylate, paracetamol, chondroprotectors - glucosamine sulfate and chondroitin sulfate, and B vitamins.

The analysis of the drug market structure by the producing countries showed that 33.3% (35 items) of consumers are supplied with domestic drugs and 66.7% (70 items) with foreign products (Fig. 1).

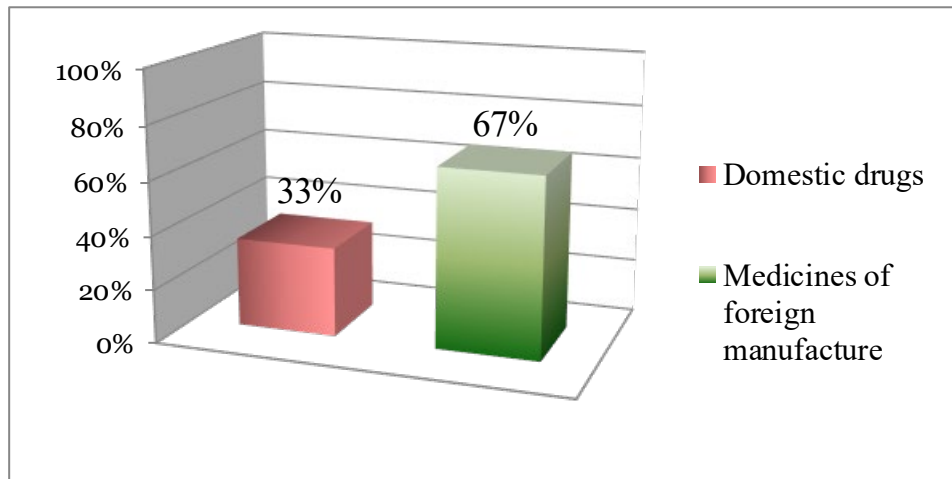
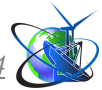


Fig. 1. Segmentation of the pharmaceutical market of Diclofenac preparations by producing countries

Among drugs manufactured abroad, the leading place is occupied by drugs manufactured in India (30%) and Germany (22.85%), the same specific weight belongs to drugs from Slovenia and Romania - 8.6% and 7.1%, respectively (Fig. 2).

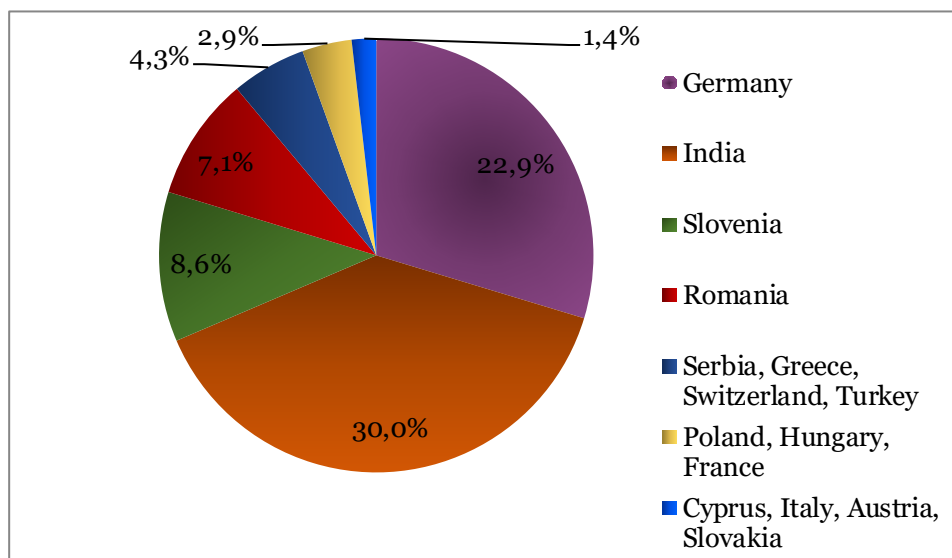


Fig. 2. The structure of the domestic market of foreign-made medicinal products that contain Diclofenac sodium by producing countries

A small number of drugs manufactured by pharmaceutical enterprises of other countries in the ratio of 4.3%, 2.9% and less (Fig. 2)

Research of the pharmaceutical market in terms of the contribution of different dosage forms of release showed that diclofenac drugs are presented in 8 different dosage forms (Fig. 3), among which the largest share is the dosage form - gel (30.5%), relatively large shares are occupied by enteric tablets (24.8%), solutions for injections (17.1%) and rectal suppositories (10.5%). Other dosage forms are presented in lower percentage ratios.

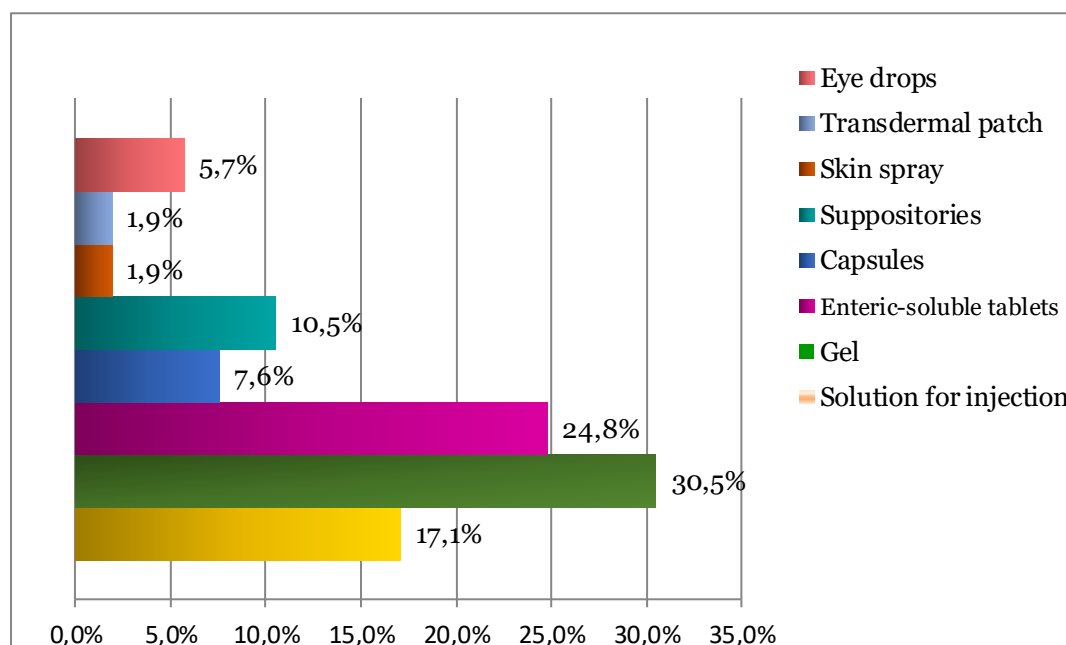


Fig. 3. A variety of dosage forms of sodium diclofenac on the pharmaceutical market of Ukraine

In addition, it is worth noting that powders (substance) for pharmaceutical use (4) of foreign production are presented in the State Register of Pharmaceuticals.

Given the wide range of use of sodium diclofenac in medical practice, it can be considered that it belongs to the drugs of the first line of pathogenetic therapy for rheumatic diseases. The results of a comprehensive marketing analysis of the assortment of the domestic market indicate a significant share of drugs with the active ingredient diclofenac sodium among other medicinal NSAIDs, with a variety of dosage forms. However, when prescribing drugs, it is also important to evaluate the effectiveness/safety and price/quality ratio, which is important for the patient.

Conclusions. Diclofenac sodium preparations are represented by a considerable range of dosage forms, which will allow their use in a number of rheumatic diseases.

Prospects for further research. Further conducting a pharmacoeconomic analysis of the use of diclofenac sodium preparations, as well as carrying out information work among medical and pharmaceutical specialists regarding this range of medicines.

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