**Results and discussion.** It has been demonstrated that cryoextract of umbilical cord and conditioned medium increases the metabolic, proliferative and migratory activity of fibroblasts in the in vitro system. The action of the umbilical cord cryoextract on the cell culture is similar to the effect of the culture medium of the umbilical cord stem cells, while it does not reduce the proliferative activity and adhesion of the cells, as hyaluronic acid does.

Intradermal application of cryopreserved umbilical cord extract in ovariectomized rats leads to systemic recovery of aging manifestations: the epidermis and dermis thicken, cell proliferation phenomena are observed, the number of blood vessels and skin elements increases.

**Conclusions.** Umbilical cord stem cells conditioned medium and the cryoextract of the umbilical cord are promising for application in antiaging therapy.

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# RESULTS OF FREQUENCY ANALYSIS OF DRUG PRESCRIPTIONS BREAST CANCER PATIENTS

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**Introduction.** Today, one of the global problems in the world and in Ukraine is the constant increase in cases of breast cancer in women. As a result, economic costs and the burden on the health care system increase, which leads to the need for rational use of financial resources. Various analysis methods are used to solve this problem, such as frequency analysis, VEN analysis and ABC analysis.

**Materials and methods.** 415 cards of women with breast cancer who were undergoing inpatient treatment were analyzed. The method of frequency analysis of drug prescriptions and generalization of results was used.

**Results and discussion.** With the help of frequency analysis, the total and average number of prescriptions, the total and relative number of prescribed drugs (drugs) were determined, and their distribution by ATS classification groups was carried out. It was established that, on average, the patients of the analyzed sample spent 9 bed-days in the hospital. During this time, a total of 3,723 appointments were made to them. Based on the data obtained from the analysis of prescription letters, 142 trade names of drugs representing 11 pharmacotherapeutic groups were prescribed to patients with breast cancer.

It was found that the largest number of prescriptions, namely 1055 (or 28.32% of the total number of prescriptions), falls on drugs of group B − drugs that affect the blood system and hematopoiesis, and the smallest number is observed in group V − various drugs − 10 (0.27%).

The dispensation of pharmaceuticals by international non-proprietary names belonging to group B − agents affecting the blood system and hematopoiesis was carried out. It was established that among

the indicated group, drugs of the B05 subgroup – blood substitutes and perfusion solutions (43.75%) were most often prescribed, while B03 – anti-anemic agents (6.25%) were the least frequently prescribed.

According to the results of the study, the TOP-5 drugs that were most often used in patients with breast cancer were determined. Among them, in decreasing order, the following are represented: sodium chloride solution 0.9% (25.36%), dexamethasone (10.58%), ondasterone (4.83%), barboval (4.86%) and osetron (4. 83%).

**Conclusions.** It was established that the average stay of patients with breast cancer in the hospital is 9 bed-days. The frequency analysis of drug prescriptions revealed that the largest number of prescriptions, namely 1055 (or 28.32% of the total number of prescriptions) belong to the group of drugs affecting the blood system and hematopoiesis. Among this group, drugs from the subgroup of blood substitutes and perfusion solutions were most often prescribed (43.75%).

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# DRUG DELIVERY SYSTEMS USING MICRO- AND NANOPARTICLES

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The development and implementation of innovative dosage forms is a priority for the pharmaceutical industry. Currently, about 25% of the world drug sales volume are occupied by drugs with an improved delivery system. The drugs available on the market tend to prolong the action and increase the bioavailability of the drug, as well as reduce possible side effects. The delivery systems currently being developed and implemented not only have the above useful properties, but also provide targeted transport of drugs to the focus of the pathological process.

Applied approaches to the introduction of drugs into the human body, based on the use of traditional dosage forms, have a number of significant limitations, such as:

– non-directional drug action, i.e. interaction with non-target biological objects, often leads to side effects caused by its metabolites, and to non-target, irrational drug consumption;

– increased drug consumption, caused by the fact that the drug does not reach all the necessary biological targets or does, but at a concentration much lower than the required therapeutic one. Therefore, it is necessary to use doses that are 1-2 orders of magnitude higher than theoretically necessary;

– the impossibility of maintaining the optimal therapeutic concentration of the drug for the required time and, as a result, the need for frequent administration of the drug;

– insufficient biocompatibility and undesirable physiological effects in the area of drug administration. The need to use special methods of drug administration;

– significant difficulties in the use of drugs with non-optimal transport properties (for example, high lipophilicity).

One of the most important tasks is to optimize the lipophilicity of transport particles, which is associated with penetration through biological barriers. The route of drug administration is often a determining factor in the process of creating new dosage forms, taking into account the possibility of choosing a treatment. The chemical and physicochemical properties of the medicinal product also impose certain requirements and restrictions on the composition and design of transport particles and dosage forms in general.