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LEVEL OF AWARENESS ABOUT COUNTERFEIT DRUGS

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The production and widespread distribution of counterfeit medicines in most countries of the world is unsafe for the health of consumers, causes economic damage, and therefore is a serious public health problem. In connection with the latter circumstance, an important role in countering the circulation of such drugs is the awareness of the subjects of circulation about their identification, their suppliers and the timely implementation of internal control measures. Constant monitoring of drug supplies and prompt notification of subjects of circulation about the detection of counterfeit drugs helps to identify and prevent the circulation of counterfeit drugs. That is, since counterfeit medicines are dangerous for the healthcare system and patients, it is important for doctors, pharmacists and the patients themselves who use them to be aware of them. From this point of view, in order to determine the level of public awareness of counterfeit medicines, we conducted a survey of 100 patients, including 24 men and 76 women. As a result of the study, the majority of participants, answering options in the questionnaire, came to the conclusion that the drug is counterfeit due to the lack of effect, and if a counterfeit drug is discovered, they will first of all "turn" to the pharmacist who sold the drug, and that the main responsibility for the turnover counterfeit medicines are the responsibility of medical companies, and they believed that educational work on medicines, including counterfeit ones, would be more effective through social networks and that doctors should participate more in educational campaigns.

Key words: falsified medicines, awareness level, doctors, pharmacists, survey.

Connection of the publication with planned research works.

This study was carried out within the framework of the research work of the departments of Pharmaceutical Technology and Management and Medical and Biological Physics of the Azerbaijan Medical University "Expertise characteristics of drugs imported to the Republic of Azerbaijan".

Introduction.

Counterfeit drugs are low-quality products manufactured and marketed to misrepresent the authenticity, origin, and other properties of the drug. The circulation of such drugs is dangerous for the healthcare system, including the health of the population. A ring consisting mainly of companies, doctors, pharmacists and patients has a role in the "production", circulation, sale, use and detection of drugs, including counterfeit drugs [1, 2].

Although all fake and wrongly packaged drugs are classified in the group of non-standard products, not all non-standard drugs can be considered fake. In many cases, WHO reports also share the information obtained on the circulation and detection of fake and non-standard medicines by countries [3-6].

In this regard, a number of research works have been conducted covering the rings of the mentioned circulation, of which the research conducted in a number of countries attracted our attention, and the query in their article was modified by us in accordance with the realities of our region and a similar study was carried out [7, 8, 9].

The aim of the study.

To determine the level of awareness among the population about counterfeit drugs.

Object and methods of research.

For this purpose, a total of 100 patients, including 24 men and 76 women, or "drug importers" were involved in the study. First, after studying the information about the gender and age of the patients, their education and jobs, the details and in which research they were used were studied using a special survey form that we have previously provided information about in the relevance of the article. The survey consisted of special questions and slight modifications were made in these questions in accordance with the realities of our country and geographical region compared to the previous similar study. These questions and the answers given by the patients

were given in the results of the study. In order to avoid repetition, we do not give them separately in this section.

The studies were carried out with the written consent of the participants in accordance with the principles of bioethics set forth in the Declaration of Helsinki "Ethical Principles of Medical Research Involving Human Subjects", developed by the World Medical Association, and the "Universal Declaration of Bioethics and Human Rights (UNESCO)" [10].

In the statistical work carried out on the results of the research, the study of quality indicators, their absolute numbers, percentage shares and standard errors were determined according to the occurrence of symptoms. Statistical processing of the obtained data was carried out on a personal computer using MS Excel table processor.

Research results and their discussion.

Out of 100 people surveyed during the study, 24 people were male and 76 were female, which is 24% and 76% of the total population. When dividing the patients by age groups, 25 of them were in the age range of 18-25, 30 of them were in the age of 26-41, and 45 of them were in the age of 42-57, which are 25%, 30% and 45% of the total contingent. At the stage of determining the educational level of the survey participants of the study, only 1 of the participants had primary education, and this covers 1% of them. At that time, 21 people or 21% of the participants had an average education, 52 people or 52% had a secondary-higher education, and 26 people or 26% had a higher education.

Then it was determined whether the objects of research were workplaces and medical workers, and it should be noted that the term medical worker refers to persons with secondary medical education who do not have medical qualifications. Because we thought that doctors could influence the results of our opinion on the general population. It is planned to carry out research on the opinions of doctors in this direction at the next stage of the research, at which time the structure of the survey will include more professional nuances. At this stage of the study, 42 of the total participants (n=100) were people working in the medical field but not doctors, which means 42%. At that time, 25 of the participants were completely distant from the medical field, but had other professions and qualifications, and were currently working, and 33 people were unemployed, which included 25% and 33% of the total participants, respectively. It should be noted that during the research, the activities of the survey participants in the field of medicine and the setting of unemployment issues are important in the further course of the research, and we plan to use those stages to justify the results.

At the stage of the research, where we analyze the results of the survey, **"How did you come to the conclusion that the medicine is fake?"** when determining the nature of the answers to the question, 54 of the survey participants marked the answer **"no effect of the medicine"**, which is 54% of the group. At this time, the number of survey participants who pointed to the item **"the sale price of the medicine is different from the price I bought it before"** as an answer to the relevant question and indicated this as the main factor covered 15% of the total participants (**table**). 22 of the participants of the survey marked the item **"changes in the shape charac-**

teristics of the packaging" in the above question, and this is 22% of the relevant participants. As an answer to the above-mentioned question, there were 9 survey participants who indicated the item **"the medicine has a side effect"**, and this is 9% of the total population.

The second question of the survey in the study was **"What do you think should be the first thing anyone should do if they suspect that the medicine is fake?"** and 64 of the participants, or in other words 64% of them, marked the answer **"I would contact a pharmacist"**. At this time, 18 of the survey participants marked the option **"I would inform the doctor who prescribed the medicine"** as the answer to this question, which means 18% of the total participants. As an answer to the above question, 7 respondents answered **"I would throw the medicine in the garbage"**, 4 people said **"I would do nothing"**, 3 people said **"I would buy the same medicine in a different package"**, 3 others said **"I would take action to apply to the relevant institutions"** and 1 and one person chose the option **"I would act according to any of the options mentioned above"**, which includes 7%, 4%, 3%, 3% and 1% of the total respondents involved in the study, respectively.

During the research, the next question of the survey was **"Who or who, in your opinion, is responsible for the circulation of counterfeit drugs?"** was in the form that at this time the participants were allowed to mark only one option. At this stage, among the patients who participated in the survey, or in other words, drug users, in 19 cases, they took the option **"producers"** as an answer to the question, which means 19.0% of the total cases. Marking the option **"pharmaceutical companies"** as an answer to this question occurred in 34 cases, which is 34% of the total cases. Survey participants marked **"pharmacists"** as an answer to the question in 15 cases, which covers 15% of the total participating patients. Participants mentioned the option **"customs system"** as an answer to this question in 32 cases, which means 32% of the total cases.

The next question of the survey was **"In your opinion, which specialists' influence on medical education should be further strengthened?"** It is set in the form that it is possible to mark 2 options at the same time during this survey. At this time, 54 patients (n=100) who participated in the survey, or 54% of them, chose **"pharmacists"** as an answer to the question. At this time, 25 of the survey participants, or 25% of them, chose the option **"pharmaceutical companies"** as an answer to the relevant question. 29 of the survey participants indicated the option **"doctors"** as an answer to the appropriate question, which means 29% of the total participants.

The next question during the survey was **"How do you think drug education can be increased?"** was. At this stage of the survey, 46 of the participants or 46.0% of them marked the option **"Social networks"** as an answer to the question. At this time, 19 of the survey participants (n=100) selected the **"TV programs"** option, which covers 19.0% of the total cases. At this stage, survey participants chose the **"Newspaper and other means of publication"** option in 4 cases, and this means 4.0% of the total patients. In 12 cases, or 12.0% of total patients, survey participants chose the option **"With radio programs"** as an answer to the question. Among the participants, when answering the above question, selecting the option **"special educational leaflets"** cov-

Table – Determining the level of awareness of counterfeit drugs among the population

Parameter	Frequency (n)	Percentage (%)	Standard Error (SE)
Sex			
Male	24	24,0	4,27
Female	76	76,0	4,27
Age			
18-25	25	25,0	4,33
26-41	30	30,0	4,58
42-57	45	45,0	4,97
Educational Attainment			
College Undergraduate	1	1,0	0,99
Elementary Graduate	21	21,0	4,07
College Graduate	52	52,0	5,00
High School Graduate	26	26,0	4,39
Question-1. Why do you suspect that the medicine was counterfeit			
1. Unperceived effect	54	54,0	4,98
2. Different price from the last time you bought	15	15,0	3,57
3. Different pill	22	22,0	4,14
4. Because of side effect	9	9,0	2,86
Question-2. What do you think would be the first thing to do if a medicine is counterfeit?			
Contact the pharmacist	64	64,0	4,80
Tell the doctor	18	18,0	3,84
Throw the medicine away	7	7,0	2,55
Nothing	4	4,0	1,96
Buy another box	3	3,0	1,71
Report the regulatory authorities	3	3,0	1,71
Report	1	1,0	0,99
Question-3. CFMs (counterfeit medicine) source and who is responsible for availability?			
Manufacturers	19	19,0	3,92
Companies	34	34,0	4,74
Pharmacists	15	15,0	3,57
Customs	32	32,0	4,66
Question-4. To whom health education be directed?			
The Pharmacists	54	54,0	4,98
The companies	25	25,0	4,33
The physicians	29	29,0	4,54
Question-5. In your opinion, how should the awareness be increased through			
Social media	46	46,0	4,98
T.V	19	19,0	3,92
Newspapers	4	4,0	1,96
Radio stations	12	12,0	3,25
Leaflets	11	11,0	3,13
Billboards	8	8,0	2,71
Question-6. In your opinion, who should be involved in the awareness campaign			
Pharmacists	29	29,0	4,54
Physicians	64	64,0	4,80
Companies	7	7,0	2,55

ered 11 cases, which means 11.0% of the total patient participants. Among the participants, 8 cases of choosing the option “with advertising means” as an answer to the given question covered 8.0% of the total drug importers.

The next question of the survey is “Who do you think should be prioritized for participation in the awareness campaign?” It is stated that at this time, the participants mentioned the option “pharmacists” in 29 cases [11], which means 29.0% of the patients who participated in the general survey. At that time, marking the option “doctors” as an answer to the relevant question made up 64.0% of the total patients, covering 64 cases. In 7 cases, the survey participants marked the option “pharmaceutical companies” as an answer to this question, which covers 7.0% of the total patients.

Conclusions.

1. Based on the data obtained, there is every reason to talk about the importance of further scientific development of issues related to the circulation of counterfeit medicines, in order to implement a set of local actions aimed at improving the collection of important information about this category of problems in the field of health care.

2. The presence of counterfeit and substandard drugs on the markets is due to a number of reasons, among which the «unperceived effect» dominates.

3. One of the effective tools for improving the level of public health is regular monitoring of information about adverse reactions to drugs, identification of possible serious consequences from their use, and timely warning of medical workers and patients from the use of substandard drugs.

Prospects for further research.

Despite numerous individual reports of detection of low-quality and falsified medicines, such information is not systematized at the international level. Research can only provide a limited picture of the situation at a given time.

The estimates obtained only indicate the scale of this problem. Further research is needed to obtain a more accurate assessment of the risks associated with the use of substandard and falsified medical products. The conclusions obtained as a result of the study can be used in further theoretical development of the object and subject of research.

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РІВЕНЬ ОБІЗНАНОСТІ ПРО ФАЛЬСИФІКОВАНІ ЛІКАРСЬКІ ЗАСОБИ

Мадатлі Ф. І., Аббасалієва Т. Р., Гаджієв З. А.

Резюме. Об'єкт і методи дослідження. У дослідженні взяли участь 100 пацієнтів, серед них 24 чоловіка та 76 жінок або «імпортери лікарських засобів». Спочатку після отримання інформації щодо статі та віку пацієнтів, їх освіти та роботи, подробиць і інформації щодо участі у інших дослідженнях, були вивчені за допомогою опитувальника, було проведено анкетування.

Результати. На запитання «Як, на вашу думку, можливо покращити обізнаність щодо лікарських засобів?» більшість учасників або 46% з них, відмітили важливість «Соціальних мереж». Як зазначили пацієнти ефективнішою просвітницька робота щодо фальсифікованих лікарських засобів буде, якщо вона проводиться за участі лікарів. При цьому, значна кількість респондентів, даючи відповідь на запитання «Чому ви підозрюєте, що лікарський засіб фальсифікований?» дійшли висновку, що лікарський засіб є фальсифікований через відсутність ефекту. Згідно відповідей, що були дані на запитання «Джерело CFM (фальсифікованих ліків) і хто несе відповідальність за їх наявність?» основна відповідальність за поширення неякісних та фальсифікованих лікарських засобів лежить, у першу чергу, на медичних компаніях, а потім і на працівниках митної служби, що зазначили 34,0% та 32,0% опитаних, відповідно. Щодо подальших планів для зниження частоти виявлення неякісних лікарських засобів, то з цією метою у програму дослідження було включено запитання, яке звучало так: «На вашу думку, роль яких спеціалістів для медичної обізнаності потрібно ще більше посилити?». При цьому, тут можливо відзначити два варіанта одночасно. При цьому 54 пацієнта (n=100), що взяли участь у опитуванні, або 54% з них, у якості відповіді на запитання обрали «фармацевти». При цьому 25 учасників опитування, або 25% з них, у якості відповіді на відповідне запитання обрали варіант «фармацевтичні компанії». 29 учасників опитування у якості відповіді на відповідне запитання зазначили варіант «лікарі», що становить 29% від загальної кількості учасників.

Висновки. Базуючись на отриманих даних є всі передумови говорити про важливість подальшої наукової розробки запитань, пов'язаних з обігом фальсифікованих лікарських засобів, з метою реалізації комплексу локальних дій, спрямованих на покращення збору важливої інформації цієї категорії проблем системи охорони здоров'я.

Ключові слова: фальсифіковані лікарські засоби, рівень обізнаності, лікарі, фармацевти, опитування.

LEVEL OF AWARENESS ABOUT COUNTERFEIT DRUGS

Madatli F. I., Abbasalieva T. R., Hajiev Z. A.

Abstract. Object and methods of research. The study involved 100 patients, including 24 men and 76 women, or "drug importers". First, after studying the information about the gender and age of patients, their education and work, the details and in which studies they were used, they were studied using a special survey form, a questionnaire was conducted.

Results. To the question: "How do you think it is possible to improve drug education?" the majority of participants, or 46.0% of them, noted the importance of "Social Networks". As the patients noted, educational work on counterfeit medicines will be more effective if it is conducted with the participation of doctors. At the same time, many respondents, answering the variants of the questionnaire questions "Why do you suspect that the medicine is fake?", came to the conclusion that the drug is falsified due to the lack of effect. According to the answers given to the question "The source of CFM (counterfeit medicines) and who is responsible for their availability?", the main responsibility for the distribution of substandard and counterfeit medicines lies primarily with medical companies, and then with customs officers, which was noted by 34.0% and 32.0% of respondents, respectively. As for further plans to reduce the frequency of detection of substandard medicines, for this purpose, the research program included a question that sounded like this: "In your opinion, which specialists' role for medical education should be further strengthened?". At the same time, two options can be noted here at the same time. At the same time, 54 patients

(n=100) who took part in the survey, or 54% of them, chose “pharmacists” as the answer to the question. At the same time, 25 survey participants, or 25% of them, chose the option “pharmaceutical companies” as the answer to the corresponding question. 29 survey participants indicated the option “doctors” as an answer to the corresponding question, which is 29% of the total number of participants.

Conclusions. Based on the data obtained, there is every reason to talk about the importance of further scientific development of issues related to the circulation of counterfeit medicines in order to implement a set of local actions aimed at improving the collection of important information in this category of problems in the field of healthcare.

Key words: falsified medicines, awareness level, doctors, pharmacists, survey.

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COMPARATIVE EVALUATION OF THE EFFECTIVENESS OF PATHOGENETIC AND ETIOLOGICAL TREATMENT OF OTOMYCOSIS

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According to WHO, every fifth inhabitant of the Earth has a fungal disease. Under these conditions, given the constant risk of immunosuppression caused by one reason or another, everyone can become a target for the defeat and subsequent generalization of fungal infection. In this regard, timely treatment and prevention of mycoses is of particular relevance. In 2022, WHO published for the first time a list of the 19 most dangerous fungal pathogens that pose a threat to public health. Most of them are also pathogens of otomycosis. WHO has declared the search for ways to block the spread of these pathogens, as well as to prevent the emergence of resistance to antifungal drugs, to be priority areas of medicine. Most of these pathogens can be pathogens of otomycosis. The purpose of our study was to identify the most common pathogens of otomycosis in Azerbaijan, to study their sensitivity to antifungal to evaluate the effectiveness of pathogenetic treatment of otomycosis with a drug with a keratolytic effect, compared with antifungal drugs that contribute to the development of resistance in fungal pathogens.

Key words: antifungal, otomycoses, susceptibility, salicylic acid.

Connection of the publication with planned research works.

This work is a fragment of a dissertation for the degree of Doctor of Philosophy in medicine.

Introduction.

In 2022, WHO published for the first time a list of the 19 most dangerous fungal pathogens that pose a threat to public health. WHO has declared the search for ways to block the spread of these pathogens, as well as to prevent the emergence of resistance to antifungal drugs, to be priority areas of medicine [1]. At the moment there are only 4 groups of antifungal agents and several candidate drugs under development. In addition, many of these drugs are not available in the pharmacy chain, in addition, most of them are not available

due to the high cost. Considering the above, the spread of diseases such as skin mycoses, thrush, oropharyngeal candidiasis and the lack of rapid methods for diagnosing sensitivity to drugs creates a real threat of an avalanche-like growth of resistance. Therefore, the most important directions in the work of doctors are the revision of the usual methods of treating fungal diseases, the search for more affordable means, while blocking the appearance of more resistant strains.

According to WHO, every fifth inhabitant of the Earth has a fungal disease [2]. Under these conditions, given the constant risk of immunosuppression caused by one reason or another, everyone can become a target for the defeat and subsequent generalization of fungal infection. In this regard, timely treatment and prevention