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RESEARCH OF PROSPECTS OF INVOLVING PHARMACISTS IN UKRAINE TO HELP PATIENTS TRYING TO QUIT SMOKING

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The aim. The study aimed to determine the prevalence of tobacco smoking among pharmacy workers in Ukraine, their awareness of the harmfulness of certain types of cigarettes, the attitude of pharmacy managers and pharmacists towards their colleagues' smoking, as well as the ability of pharmacists to provide effective help in smoking cessation and assessment of prospects for the participation of pharmacists in tobacco smoking control programs if such programs are to be implemented in Ukraine.

Materials and methods. The survey involved 239 employees of Ukrainian pharmacies under the age of 30 working in different regions. According to the geographical structure, the respondents represent 22 regions of Ukraine.

Results. The experience of countries where active assistance to those who want to quit smoking pharmacists are involved suggests that pharmacists' support can help increase adherence to smoking cessation drugs and provide additional behavioural support as an adjunct to pharmacotherapy, which is quite effective. Currently, there are no such programs in Ukraine.

The survey results show that Ukrainian pharmacists under the age of 30 are aware of the dangers of smoking. Most of them assess the level of their training in smoking cessation assistance as sufficient, but they only mean advice on the use of drugs in smoking cessation.

Conclusions. Thus, in order to introduce the services of active support by pharmacists for people trying to quit smoking in Ukraine, it is required to create the necessary conditions for the interest of pharmacies and pharmacists in carrying out this type of activity and the implementation of programs of additional training in methods of active support for people trying to quit smoking

Keywords: Tobacco smoking, pharmacists, smoking cessation, nicotine addiction, tobacco replacement therapy, pharmacies

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1. Introduction

Tobacco smoking is one of the leading causes of morbidity and mortality that can be prevented. According to the latest World Health Organization (WHO) data, smoking and other types of tobacco use cause deaths of seven million people worldwide each year [1]. Death occurs from heart attacks, strokes, lung cancer, or other diseases, including oncological ones. In addition to the significant health damage caused by tobacco smoking, illness and death among the working population cause significant economic damage to national economies of more than 500 billion US dollars per year due to loss of productivity, premature death, and higher health care costs [1]. The health care system's direct and indirect costs for treating tobacco-related diseases globally are more than 2 trillion US dollars annually [1].

But, despite this, the number of smokers worldwide is constantly increasing. According to the WHO Regional Office for Europe, there are currently 1.3 billion smokers in the world, and it is estimated that by 2025 there will be 1.6 billion [2]. Therefore, actions to support smoking cessation and reduce the number of smoking

supporters are very important and relevant in every country. An important step in this direction was the adoption of The WHO Framework Convention on Tobacco Control, which came into action in 2005. As of now, 168 countries have joined it. The document recommends that its member states reduce the supply and demand for tobacco [3]. Among them are the following: price and tax regulations; non-price actions to reduce the tobacco demand – regulation of the composition of tobacco products; mandatory placement of health warnings on each pack and package; a mandatory indication of the tobacco product composition; informing the population about the dangers of smoking; introduction of a total ban on tobacco advertising or its restriction, protection of people from the effects of tobacco smoke, etc. In addition, the Convention recommends preventing the illegal trade of tobacco products and prohibiting their sale to underage people [4].

Ukraine joined The WHO Framework Convention on Tobacco Control in 2006, and the following restrictions were gradually adopted: tobacco advertising and sponsorship were banned; smoking in public places was

prohibited; graphic warnings about the dangers of smoking on cigarette packs were introduced; excise duty on tobacco is still constantly increasing [5]. This has resulted in both significant reductions in the prevalence of smoking in Ukraine and in an increase in its social unacceptability [6]. But still, according to the State Statistics Service of Ukraine. According to the results of the Global Survey of Adults on Tobacco Use in Ukraine (GATS), conducted in 2010, 10.2 million people smoked in Ukraine, which was 28.9 % [5]. A similar study conducted in 2017 showed that 8.2 million people – 23 % – smoked then. [7] According to the data of the State Statistics Service of Ukraine, as of 2020, there were 5.53 million smokers in Ukraine, 16.8 % [8].

In the direction of informing consumers about the harm to health caused by smoking and methods to get rid of this habit, the pharmacists in the health systems of many countries, considered to be a valuable source of specialised knowledge and reliable information, are involved. For example, in the United Kingdom and the United States of America, pharmacists are advised to consult on the proper use of nicotine replacement therapy (NRT) in pharmacies and to provide structured support to help quit smoking [9].

In addition to the potential increase in the availability of smoking cessation support services, support from pharmacists can help increase adherence to smoking cessation drugs and provide additional behavioural support as an adjunct to pharmacotherapy that is quite effective [10].

Studies conducted in the United States of America, Australia, Italy, and Qatar have provided personal behavioural support from specially trained pharmacy staff. It was studied that more intensive structured care provided by outpatient pharmacy staff helps more people quit smoking [11]. Such help can be effective even in the form of telephone counselling [12]. In the United States of America, pharmacy students participated in educational activities and planned and presented an educational program on tobacco prevention for school students [13].

In Ukraine, smoking cessation services are provided in some treatment and prevention healthcare facilities, but the costs associated with such services are not reimbursed by insurance companies. NRT drugs can be purchased in pharmacies without a prescription, but their cost is also not reimbursed. There is no toll-free smoking cessation counselling line in Ukraine. Pharmacists are not involved in preventing smoking and helping people who want to quit smoking [14].

According to Article 14 of the WHO Framework Convention [15], assistance should focus on actions that contribute to the cessation and treatment of tobacco dependence. Reviews [16] found that in 2018 only 23 countries introduced comprehensive smoking cessation services, which include the implementation of effective smoking cessation programs, including the diagnosis and treatment of tobacco dependence in health care facilities, the involvement of medical professionals and professionals in the field of health care, as well as taking actions to

create substantiated evidence of smoking cessation treatment [17].

The aim of the study was to determine the prevalence of tobacco smoking among pharmacy workers in Ukraine, their awareness of the harmfulness of certain types of cigarettes, the attitude of pharmacy managers and pharmacists toward their colleagues' smoking, as well as the ability of pharmacists to provide effective help in smoking cessation and assessment of the prospects of pharmacists in tobacco control programs if such programs are implemented in Ukraine.

2. Planning of research

Before conducting the research, a detailed plan includes four main stages.

The first stage of research is the formulation of the problem. A literature search was conducted based on the outlined issues. The main sources for the study were reviews from the Cochrane Library on the problem of involving pharmacists in smoking cessation assistance. In addition, an analysis of statistical data on the dynamics of the consumption of tobacco products was studied. These data became the starting point in formulating questions for the survey of Ukrainian pharmacists.

The second stage of the research is the determination of the purpose and main tasks of the research. The purpose of the study was to determine the degree of readiness of Ukrainian pharmacists to join programs to help people who want to quit smoking; for this purpose, a survey of pharmacists' opinions was planned to determine the degree of pharmacists' ability to provide effective help in quitting smoking and to identify their relationship to the specified problem, also to determine the prevalence of tobacco smoking among pharmacy workers in Ukraine, their awareness of the harmfulness of certain types of cigarettes, the attitude of pharmacy managers and pharmacists toward their colleagues' smoking.

The third research stage is choosing a research method and forming its design. A mass survey method was chosen, for which a questionnaire was created, tested and corrected. After that, primary data was collected – a survey of specialists with higher or secondary pharmaceutical education was conducted. The quantitative indicator of the sample was established empirically, namely, when the indicators of distribution on the two marker questions ceased to change significantly. The distribution of respondents by gender and the percentage of respondents who smoke were used as markers.

The fourth stage is the analysis of the obtained data and their interpretation, as well as the formulation of conclusions based on the research results.

3. Materials and methods

The research was planned as a structured survey, for which a questionnaire was created; it contained 28 questions divided into 3 blocks. The first two blocks were offered to all study participants. The first included questions about awareness of pharmacists' participation

in tobacco smoking prevention abroad and support in smoking cessation, self-assessment of their knowledge of the research problem, and readiness to learn. The second block of questions focused on personal experience helping patients who quit smoking. The third block was filled in only by those respondents who smoke; it contained questions about smoking experience, attempts to quit, the use of tobacco replacement therapy when trying to quit smoking, etc. Pharmacists from different regions in Ukraine under 30 were involved in the study. Such a decision was made because young people are able to acquire new knowledge and influence the change of role pharmacist in a modern pharmacy.

The study was conducted using the method of CAWI (Computer-assisted web interviewing) – a quantitative method of information collection, with the survey being organised via the Internet without the participation of the interviewer. The structured online survey was provided with the use of the Google forms service. The link to the form was sent to respondents in messengers and e-mails. Personal data was not collected, but a request to obtain consent for data processing and publication of results was included in the questionnaire. Microsoft Excel was used to analyse the results.

The study was conducted in January 2022. As a result of the survey, 239 questionnaires were received. 232 questionnaires were involved in the study. The other 7 questionnaires were removed from the study because they were filled in incorrectly. Informed consent was obtained from the study participants. Among the respondents were 19 men and 213 women, all respondents aged 22 to 30 years. According to the type of settlement, 220 work in cities, and 12 – in urban-type settlements and villages. According to the geographical structure, respondents represent 22 regions of Ukraine (Fig. 1).

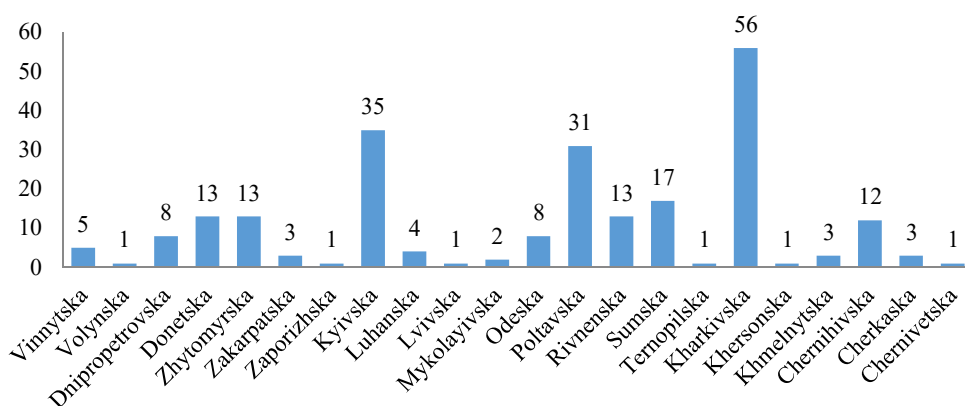


Fig. 1. Segmentation of respondents by regions of Ukraine

It is important to mention that in Ukraine, almost 90 % of pharmacy workers are women, so this representation of respondents in the sample by gender is justified.

The distribution of respondents by position is presented in Fig. 2. Among the respondents, 9 % are pharmacy managers, which included heads of pharmacies and their deputies, 76 % are pharmacists and pharmacist assistants who communicate directly with visitors. Among the others are managers, department managers, etc.

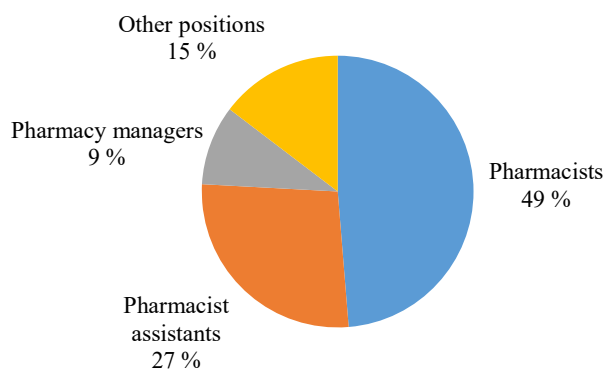


Fig. 2. Segmentation of respondents according to the position they hold in the pharmacy

4. Results

The results of a study concerning the self-assessment of the level of training of pharmacists in the direction of assistance in quitting smoking showed that 57 % of respondents assess it as sufficient and quite sufficient (Fig. 3). The questionnaire clarified that a ‘sufficient level’ should be understood as knowledge of all drugs available on the pharmaceutical market, their benefits and side effects, and sufficient knowledge to provide detailed advice on their use. The more or less sufficient level was characterised by knowledge of several drugs from the specified range.

52 % of respondents would like additional training to help people trying to quit smoking. It should be noted that among the respondents who rated their level of training as insufficient, and those who consider themselves completely unprepared, 100 % of respondents are willing to study. Respondents with a sufficient, quite sufficient and more or less sufficient level of training expressed a desire to study in the range from 41 to 57 %.

The results of the self-assessment study of the level of training of pharmacists in the direction of assistance in quitting smoking showed that 57 % of respondents rated it as sufficient and completely sufficient.

Most respondents believe that pharmacists should provide detailed advice on the use of drugs that relieve symptoms and offer drugs that are in the range of pharmacies to a

person trying to quit smoking. However, more than half of the respondents will advise seeing a doctor, and only 27 % will suggest going to a pharmacy in case of problems with the use of medicines (Fig. 4).

Only 30 % of respondents know that pharmacies abroad provide advice and support to patients trying to quit smoking. In addition, only 30 % of respondents believe that pharmacists should be engaged in educational activities aimed, in particular, at reducing the number of smokers;

45 % believe that this has nothing to do with the professional activities of pharmacists; 25 % could not decide on this.

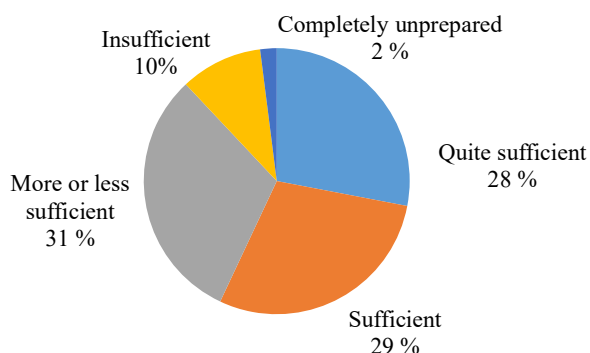


Fig. 3. Analysis of self-assessment of pharmacy employees of the level of their training in the direction of helping people who are trying to quit smoking

The results of the respondent's answers to the question of whether pharmacists' efforts can really contribute to smoking cessation are presented in Fig. 5.

In Ukraine, "Pharmacist's protocols" have been used for more than 10 years when dispensing medicines from pharmacies, the latest version of which was approved by the Order of the Ministry of Health from 05.01.2022 No. 7 [18]. The protocols contain algorithms for pharmaceutical care in different nosologies. 72 % of respondents reported using these protocols in pharmacies for pharmaceutical care. A different protocol has been developed for dispensing over-the-counter drugs for the "Promotion of smoking cessation". Only 50 % of respondents know about its existence.

Among the respondents, 80 % had to help patients trying to quit smoking. But only half of them used the

protocol's recommendations when dispensing over-the-counter drugs «Promoting smoking cessation».

To assess smoking prevalence among pharmacy workers, we conducted research in two directions. First, the share of smokers among respondents was 23 %; at the same time, their percentage among men was 58 %, and among women is 20 %. Secondly, the number of smokers in the pharmacies where respondents' work was determined; the study results are presented in Fig. 6.

During the study, we also looked into the attitude of pharmacists to electronic cigarettes (e-cigarettes) and their assessment of their impact on health. It turned out that only 15.5 % of surveyed pharmacists believe that e-cigarettes are less harmful to health than conventional ones. Most are well aware of the risks of using e-cigarettes, and 13.8 % of respondents consider them more dangerous.

The distribution of respondents who smoke by type of tobacco smoking is presented in Fig. 7. Most prefer e-cigarettes.

According to respondents, 22 % of pharmacy managers have a negative attitude towards their employees smoking (Fig. 8).

The study found that 53 % of smokers tried quitting, but only 24 % used medicines to alleviate their condition.

Regarding the use of drugs in smoking cessation, all respondents who used them indicated Tabex either as monotherapy or in combination with Nicorette.

When asked about the reasons for returning to smoking, most respondents (60 %) indicated a stressful situation, some (16 %) referred to the influence of the surroundings, and 9 % of respondents said that the medications they used did not help them (Fig. 9).

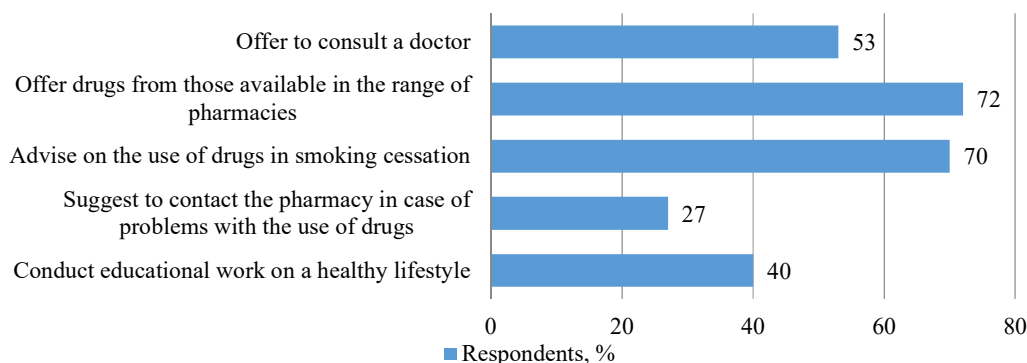


Fig. 4. Types of help for a person who wants to quit smoking, which pharmacists can provide

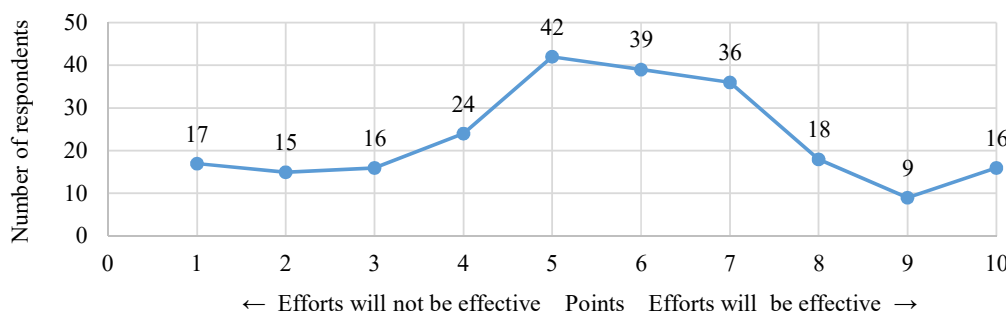


Fig. 5. Assessing the ability of pharmacists to really promote smoking cessation

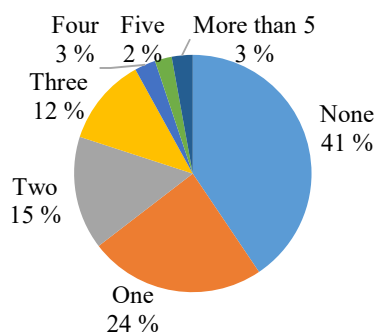


Fig. 6. Respondents' assessment of the prevalence of smoking among pharmacists in pharmacies where they work

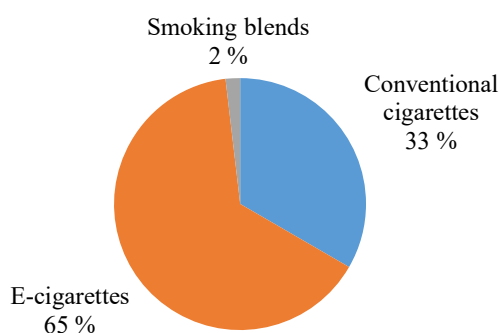


Fig. 7. Segments represent percentages of surveyed employees of pharmacies who smoke by type of smoking

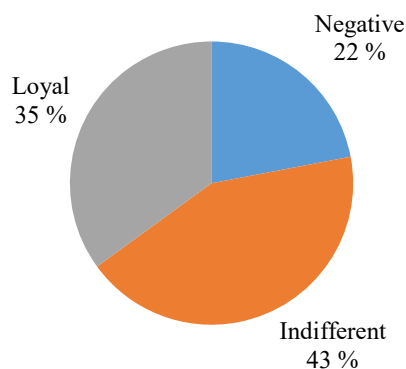


Fig. 8. The attitude of management to smoking employees

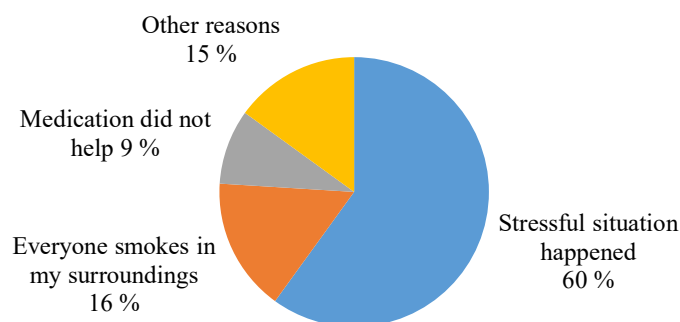


Fig. 9. Reasons to return to smoking after trying to quit smoking

As for further attempts to quit smoking, 55 % of surveyed pharmaceutical workers who smoke are inclined to do so.

5. Discussion

Nowadays in Ukraine, there are no clear requirements for pharmacists to be involved in education active-

ly, although many countries believe that pharmacists are beneficial and can play a more active role in the health care system, namely to help improve health by reducing drug-related side effects and promoting stricter adherence to treatment, disease prevention, healthy lifestyle promotion, and more [19].

Recently in Ukraine, a debate about the role of modern pharmacists in the health care system has begun. In contrast to the fact that pharmacists abroad provide a variety of pharmaceutical services in the framework of professional roles and responsibilities, in Ukraine, in fact, the activities of pharmacy workers are limited to the sale of medicines, and the main indicators affecting their pay are economical, namely – sales volume, average check amount. However, pharmaceutical care of patients is carried out and is one of the professional duties of a pharmacist.

One of the services provided by pharmacists abroad is to help patients try to quit smoking. In the course of the research, we tried to find out whether Ukrainian pharmacists are ready to fully provide such services and whether they consider such activities to be part of the pharmacist's responsibilities. The study results showed that less than a third of respondents perceive the provision of such a service as part of the pharmacist's responsibilities; others either cannot decide on this issue or believe that such service is irrelevant to the pharmacist's professional activity. This is completely consistent with the requirements of most employers who are interested in increasing sales rather than providing additional services. As for payment to the pharmacies for their pharmaceutical services, as is the case in many countries, in Ukraine, with the absence of a system of compulsory health insurance, this issue is not yet considered.

More than half of the pharmacists surveyed would advise a person who sought help to quit smoking to consult a doctor; although all drugs in the study group are available from pharmacies without a prescription, less than a third of professionals are willing to offer help in case of problems.

The situation with confidence in the success of such assistance is even worse. Only 18 % of respondents rated from 8 to 10 points the possible effectiveness of pharmacists' efforts to really contribute to smoking cessation. Some foreign studies confirm the fact that the effectiveness of pharmacists may be low. For example, we analysed a Cochrane review of several studies in which specially trained pharmacy staff support was provided. It began before smoking cessation and continued with weekly meetings for a few weeks thereafter and usually included a few minutes of advice on quitting. Comparisons were performed by control groups that received equivalent pharmacotherapy for smoking cessation but did not receive support from pharmacists. The review argues that conclusions about the effectiveness of pharmacists' behavioural support for people trying to quit are based on evidence with low reliability, limited risk of bias and inaccuracy.

In addition, a study of trends in the use of smoking cessation aid in the European Union and factors related to the use of smoking cessation aid in 2012 and 2017 showed

that in 2017, smokers were more likely to use the aid. The use of e-cigarettes to help with smoking cessation increased (from 3.7 % to 9.7 %), while the use of pharmacotherapy (from 14.6 % to 11.1 %) and smoking cessation services (from 7.5 % to 5.0 %) decreased [20]. A study conducted in South Africa showed that among those who now intend to quit smoking, 66.7 % expressed interest in using smoking cessation aid in the future, of which 24.7 % were interested in receiving help from a pharmacist [21].

The self-assessment of respondents' knowledge of smoking cessation assistance is quite optimistic. Almost 57 % of respondents are well acquainted with the range of the study group and can offer medicines available in the pharmacy range and explain the rules of their use. If we limit the sample to pharmacists and assistant pharmacists who are in direct contact with patients, this percentage will increase to 60 %.

It should be noted that the range of drugs used to quit smoking in Ukraine is quite limited. Group N07BA in the classification of Anatomical Therapeutic Chemical (ATC) classification system, which includes drugs for nicotine addiction treatment, contains three active substances: nicotine, cytisine and varenicline. As of February 20, 2022, 4 trade names of medicines belonging to the specified group were registered in Ukraine (Table 1).

Table 1
List of drugs for the treatment of nicotine addiction registered in Ukraine in 2022 [22]

No.	Trade name	INN	Manufacturer	Pharmaceutical form
1	Nicorette	Nicotine	McNeil AB, Sweden	Chewing gum, lozenges, oral spray
2	Champix	Varenicline	Pfizer	Tablets
3	Tabex	Cytisine	JSC «Sopharma», Bulgaria	Tablets
4	Resigar	Cytisine	JSC «Adamed Pharma», Poland	Tablets

Today NRT is recognised as one of the most effective methods of combating smoking. It is recommended by the Ministry of Health of Ukraine and the WHO and increases the chances of the population quitting smoking. Nicorette was the first drug to implement a new approach to the treatment of tobacco dependence: for the first time, not only psychological but also physiological factors were taken into account. When using Nicorette drugs, the body receives the minimum required dose of pure therapeutic nicotine (less than in cigarettes) but sufficient to remove nicotine "breakage". There are several dosage forms of the drug: chewing gum containing 2 and 4 mg of nicotine; sublingual tablets at a dose of 2 mg; solution for inhalation containing 10 mg of nicotine in one dose. Until the year 2020, a transdermal patch was introduced on the market. It provides a gradual release of nicotine into the blood with dosages of 5 mg/16 h, 10 mg/16 h, and 25 mg/16 h. Its registration expired in 2020.

Nicotine-free medicines are also used to overcome nicotine dependence. The following drugs are registered

in Ukraine: Champix, Tabex and Resygar (Table 1). In addition, the antidepressant bupropion is used in medical practice, but it is not registered in Ukraine.

In addition, among modern medicines, there are various new dosage forms of drugs for NRT, which are successfully used and greatly facilitate the process of smoking cessation, such as thin films and buccoadhesive microspheres for smoking cessation. There are currently no such products on the Ukrainian pharmaceutical market.

Limitations of the study. One of the limitations of the conducted research is that the level of knowledge of pharmacists on the problem of help in quitting smoking was determined by the method of self-assessment. The real state of awareness may be different, most likely, lower.

Prospects for further research. Prospects for research may be related to the study of the possibility of implementing similar programs, for example, within some pharmacy chains.

6. Conclusions

In Ukraine, for the past thirteen years (2008–2021), the prevalence of smoking has decreased from 25.6 % to 16.3 % (that is by 9.3 %). The main factor in reducing the prevalence of tobacco smoking was the decrease in the affordability of cigarettes due to the increase in the excise tax rate and the increase in tobacco corporations of their share of the cigarette price.

Another factor that may affect the prevalence of smoking in Ukraine and which is not used enough is the active assistance to those who want to quit smoking. Today, smoking cessation services are provided in some healthcare institutions, but the costs associated with such services are not reimbursed by insurance companies. The experience of countries where pharmacists are involved shows that pharmacist support can help increase adherence to smoking cessation drugs, as well as provide additional behavioural support as an adjunct to pharmacotherapy, which is quite effective.

According to the survey, Ukrainian pharmacists under the age of 30 are aware of the dangers of smoking, most of them assess the level of their training in smoking cessation as sufficient, but they only mean advice on the use of drugs in the case of smoking cessation. However, there is a concern that the majority of respondents do not find that the provision of such services is a part of the pharmacist's responsibilities, and only 18 % believe in the possible effects of pharmacists' efforts to actually promote smoking cessation. We used Kendall's correlation coefficient (W) to assess the consistency of experts' opinions in their assessment of a number of issues. The obtained result exceeds its critical values, which confirms the consistency of the respondents' answers.

Thus, in order to introduce Ukraine to the service of active support by pharmacists for people who are trying to quit smoking, it is important to create the necessary conditions for the interest of pharmacies and pharmacists in carrying out this type of activity. As for pharmacists, they are ready to learn in order to gain additional knowledge on how to help patients who are will-

ing to quit smoking. Therefore, it is appropriate to implement programs with additional training for pharmacists in methods of active support for people who are trying to quit smoking.

Conflict of interest

The authors declare that they have no conflict of interest in relation to this research, whether financial,

personal, authorship or otherwise, that could affect the research and its results presented in this paper.

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Data availability

Data will be provided upon reasonable request.

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