ABSTRACT

To assess the completeness and quality of pharmaceutical care when dispensing OTC-drugs in pharmacies in the city of Olexandria, an anonymous survey of 55 pharmacists was conducted. The questionnaire developed on the example of the European Directorate for the Quality of Medicines and Healthcare of the Council of Europe included questions about the elements of its implementation (identifying threatening symptoms, informing about the storage of the preparation, possible side effects, etc.), as well as factors affecting the results and quality of care. Also, pharmacists were asked to indicate areas that need to be improved first. It was found that the level of pharmaceutical care in the dispensing of OTC-drugs was insufficient. This opinion was completely shared by the majority of pharmacists. Pharmaceutical care positions studied were provided in pharmacies in the range of 36-85%. The lowest positions were occupied by information about the interaction of the preparation with other medicines (36%) and the medicine’s compatibility with food and alcohol (39%). The most important aspect of improvement was indicated by individual patient counseling, noted by 64.4% of the surveyed pharmacists. Based on the results of the work, recommendations for improving pharmaceutical care were proposed.

Keywords: pharmaceutical care, non-prescription medicines, OTC-drug, threatening symptoms, medicine compatibility with food, preparation side effects.

Background. Pharmaceutical practice and the work of pharmacists, according to WHO experts, is an integral and key element of health care in any country. Pharmacy specialists not only participate in supplying the population with medications but also in ensuring their rational use. Including an individual patient under certain circumstances of his condition. The mechanism for implementing these tasks is pharmaceutical care (PhC), which is a form of responsible delivery of medicinal therapy to achieve a certain result that will improve the patient’s quality of life. The European system of PhC in Ukraine has been implemented since the beginning of 2009 [1-3].
The results of the fulfillment of tasks, according to the official regulations on PhC, are: a) Treatment of the disease; b) Elimination or reduction of irritating or aggravating symptoms in the patient; c) Stopping or slowing down the disease process; d) Prevention of the disease or its symptoms [2]. It is understood that PhC is a process of close interaction of a pharmacist with a patient in planning, implementing, and monitoring the implementation of a therapeutic plan, which should ensure a certain positive result. This process also provides for the necessary degree of interaction with other professionals in the health care system, for example, to receive appropriate instructions, protocols, professional training, etc. Thus, PhC is one of the elements of general health care and is integrated with its other components. It provides direct benefits to the patient in terms of free consultation, quality assurance of medicines, and the pharmacist is assumed to be directly responsible for the quality of these services. From a legal point of view, these basic provisions exist regardless of pharmaceutical practice, volume, and possible forms of providing such services. Active implementation of PhC significantly increases the effectiveness of medicinal therapy and ensures the safety of the use of medications used by the patient [1, 4].

At the same time, the rational conduct of PhC, taking into account all its elements, in practice is a very difficult task. And in many cases, it is hampered by some factors, including the high workload of the pharmacy pharmacist, his insufficient professional level, shortcomings in the pharmacy management policy, and so on.

The purpose of this work was to assess the quality of the implementation of pharmaceutical care in the dispensing of medicines in pharmacies in the city of Alexandria, Kirovograd region of Ukraine to determine the ways of its improvement. Tasks that were solved to achieve the goal: 1) Assess the quality of PhC when dispensing OTC-drugs, 2) Assess the views of pharmacy specialists on the adequacy of the volume of PhC to increase the effectiveness and safety of treatment; 3) Identify ways to improve PhC.

Materials and methods
To accomplish the set tasks, an anonymous was conducted of 55 pharmacists working in three pharmacies in the city of Alexandria, Kirovograd region. For this purpose, a questionnaire was specially developed based on the questionnaire of the Committee of Experts on Quality and Safety Standards for Pharmaceutical Practice and Pharmaceutical Care (CDP-PH / PC), coordinated by the European Directorate for the Quality of Medicines and Healthcare (EDQM) (Council of Europe) [5]. The questionnaire contained questions on the frequency of the pharmacist's assessment of the therapeutic necessity of using the preparation in a particular patient during his dispensation (the “always-sometimes-rarely-never” scale), as well as a series of questions regarding the elements of PhC itself (identifying threatening symptoms, informing about preparation storage at home, possible side effects, etc.) on a similar scale. Also, there were questions regarding the factors that, according to pharmacists, affect the results or quality of PhC (lack of time, patient reluctance, etc.). Finally, pharmacy specialists were asked to indicate those aspects that, in their opinion, need to be improved in the first place to improve the quality of patient care. Among those proposed for approval were: the patient’s unwillingness, lack of pharmacist time, lack of professional knowledge, lack of financial benefits, etc. [4, 6].

The information obtained during the survey was grouped and analyzed following the tasks set in the research.

Results and discussion
The obtained results of the questionnaire survey of pharmacy specialists are presented in table 1.

<table>
<thead>
<tr>
<th>№</th>
<th>Information provided when dispensing OTC-drugs</th>
<th>Frequency of information provision</th>
<th>N %</th>
<th>N %</th>
<th>N %</th>
<th>N %</th>
<th>N %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Identifying threatening symptoms that require medical advice</td>
<td></td>
<td>6</td>
<td>10,9</td>
<td>26</td>
<td>47,3</td>
<td>15</td>
</tr>
<tr>
<td>2.</td>
<td>Helping the patient choose an OTC-drug</td>
<td></td>
<td>3</td>
<td>5,5</td>
<td>5</td>
<td>9,1</td>
<td>24</td>
</tr>
<tr>
<td>3.</td>
<td>Providing recommendations for the rational intake of the preparation (dose, method of administration)</td>
<td></td>
<td>2</td>
<td>3,6</td>
<td>4</td>
<td>7,3</td>
<td>29</td>
</tr>
<tr>
<td>4.</td>
<td>Informing about the duration of treatment</td>
<td></td>
<td>2</td>
<td>3,6</td>
<td>17</td>
<td>30,9</td>
<td>25</td>
</tr>
<tr>
<td>5.</td>
<td>Informing about the storage of the preparation at home</td>
<td></td>
<td>4</td>
<td>7,3</td>
<td>19</td>
<td>34,5</td>
<td>13</td>
</tr>
<tr>
<td>6.</td>
<td>Informing about possible side effects</td>
<td></td>
<td>3</td>
<td>5,5</td>
<td>16</td>
<td>29,1</td>
<td>28</td>
</tr>
<tr>
<td>7.</td>
<td>Informing about the measures to be taken if side effects occur</td>
<td></td>
<td>4</td>
<td>7,3</td>
<td>15</td>
<td>27,3</td>
<td>28</td>
</tr>
<tr>
<td>8.</td>
<td>Informing about the preparation compatibility with other medicines</td>
<td></td>
<td>8</td>
<td>14,5</td>
<td>25</td>
<td>45,5</td>
<td>14</td>
</tr>
<tr>
<td>9.</td>
<td>Informing about the preparation compatibility with food and alcohol</td>
<td></td>
<td>7</td>
<td>12,7</td>
<td>25</td>
<td>45,5</td>
<td>15</td>
</tr>
</tbody>
</table>

From the data in Table 1, it can be seen that when dispensing OTC-drugs, the number of respondents who never noted the presence of threatening symptoms in patients was 10.9% (6 respondents). There were more of those who rarely detected threatening symptoms - 26 respondents (47.3%). Often threatening symptoms in
patients were identified by a survey by 27.3% (15 respondents) who took part in the survey. Only 8 respondents always identified threatening symptoms in patients, which accounted for only 14.5% of the total number of surveyed pharmacy specialists.

Often, almost half of the respondents - 24 (43.6%) - helped the patient in choosing an OTC-drug, and 23 (41.8%) always did it. About 9% of the pharmacists who participated in the survey responded that they rarely help visitors to the pharmacy when choosing a medicine (5 respondents). And a small number of respondents - only three respondents - (5.5%) noted that they never help patients to make their choice of an OTC-drug. That is, they left this right entirely on his side.

More than half of the pharmacy specialists, namely 29 respondents (52.7%), provided recommendations on the rational intake of medicinal products (dose, method of administration) quite often. 36.4% of the respondents noted that they always informed patients about the aspects of rational preparation intake (20 respondents). A small number of pharmacy specialists who participated in the survey rarely provided patients with this information in their opinion - 4 (7.3% of respondents). And only 3.6% of respondents never provided information on the rational use of medicines (2 respondents).

Almost half of the respondents (25 (45.5%)) often provide information on the duration of treatment with OTC-drugs. This information was always provided by another 11 interviewed pharmacy specialists (20%). At the same time, almost a third of respondents - 17 (30.9%) rarely informed patients about the duration of treatment, and in 2 cases (3.6%) such information was never provided at all.

19 respondents always informed patients about the storage conditions of the preparation at home, accounting for 34.5% of the surveyed contingent. This information was often provided by 13 respondents (23.6%). 19 respondents (34.5%) were rarely informed about the storage conditions of the preparation at home and 4 respondents (7.3%) never provided such information.

The largest group of interviewed pharmacy specialists was often informed about possible side effects - 28 respondents, which amounted to 50.9% of their total number. 8 respondents (14.5%) always gave this information to a pharmacy visitor. And almost a third - 29.1% of surveyed pharmacists (16 respondents) provided this information rarely or never - 3 respondents (5.5%).

A similar distribution was noted when questioning about the measures to be taken in the event of possible side effects from taking a particular preparation. The largest group of pharmacy specialists answered that they provided such information frequently - 50.9% of the total number of respondents (28 respondents). She always provided information on measures to prevent the further development of side effects of the preparation - 8 (14.5%). 27.3% (15 respondents) rarely informed patients on this topic. Never told such information to patients 4 respondents (7.3%).

14.5% of pharmacists (8 respondents) always pointed to a possible interaction with other medicines taken. Almost a quarter of pharmacists - 25.5% (14 respondents) often informed patients about interactions with other preparations. Rarely did about half of the respondents give such information - 25 (45.5%). And 8 respondents (14.5%) did not consider it necessary to tell the patient about this.

On the question of the compatibility of the preparation with food and alcohol, there was an almost similar distribution of responses, as well as information on interactions with other medicines. The largest group of surveyed pharmacy specialists - 25 respondents (45.5%) - rarely informed visitors on this topic. 15 study participants (27.3%) reported this information to patients frequently. Only 8 respondents (14.5%) always warned patients about the possible interaction of the preparation with food and alcohol. Never provide this information to patients, and the smallest number of pharmacists who participated in the survey - 7 respondents (12.7%).

Thus, information on the dispensing of OTC-drugs for the above positions was always provided by pharmacists in the pharmacy in the range from 14.5% to 41.8%. Together with the respondents who provided it often, the range expands to 36-85%. The lowest positions are occupied by informing patients about the interaction with other medicines (36%) and the compatibility of it with food and alcohol (39%). A fairly low level of detection of threatening symptoms was found - only 42%. Slightly more than half of the cases when the information was provided on the safety parameters of medicines were occupied by the following elements of PhC: information on possible side effects (63%) and measures to be taken in case of side effects (56%). The leading positions in their implementation were occupied by a) helping the patient to choose an over-the-counter preparation and b) recommendations for the rational intake of a certain preparation (dose, method of administration) - 85% each.

Concerning the problem of improving the process of carrying out PhC in a city pharmacy, it should be noted that it requires constant improvement, which is directly related to the quality of medical care for the population. In this regard, of particular interest was the assessment of the views of the pharmacy specialists themselves on this problem, which in itself provides a key to determining the directions of such improvement. Especially important, in our opinion, was the point of view of the pharmacists themselves, who directly consulted the patients - how necessary is the provision of various kinds of information when dispensing a medicine.

Answering the questions of the questionnaire "Do you think the information you provide is sufficient for the effective and safe use of OTC-drugs?" the overwhelming majority of respondents, namely 37 (67.3%), answered positively. The fact that the information provided is not sufficient for the rational use of an OTC-drug was answered by 18 respondents (32.7%). The distribution of factors that determine, in
the opinion of the respondents, insufficient informing of patients during PhC is shown in Fig. 1.

![Diagram showing factors leading to insufficient patient information for effective and safe use of OTC-drugs.](image)

*Figure 1. Factors leading to insufficient patient information for effective and safe use of OTC-drugs.*

It is worth noting that some pharmacy specialists noted two or three factors in the questionnaire, as well as the fact that such marks were left by some pharmacists, who considered the patient's awareness sufficient. The diagram shows that 23.7% of respondents (14 pharmacists) consider informing patients insufficient because of their unwillingness to perceive this kind of information. An even larger part - 27.1% (16 respondents) - associate the low level of information with the banal lack of time at the pharmacist. Six pharmacists (10.2%) who took part in the survey explain the lack of information by the lack of specialized professional knowledge and skills. Four respondents (6.8%) believe that the indicated shortcomings in the PhC system are directly related to the fact of the relevant management policy. Namely, focusing on the sale of medicines, and not on consulting. Another three (10%) cited as a reason for the absence of officially approved procedures (protocols) for dispensing OTC-drugs. 11.7% (7 respondents) believe that the reason for the lack of information is the lack of financial benefits. And another 15.2% of respondents (9 respondents) did not have their opinion on this issue.

To develop approaches to improving PhC, the respondents were offered a list of the main aspects of the professional activity of the pharmacist with the conduct of PhC, which need to be improved first. The survey results are shown in the table. 2.

<table>
<thead>
<tr>
<th>№.</th>
<th>Aspects</th>
<th>Number of respondents</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Advising on preparation dispensing</td>
<td>38</td>
<td>64.4</td>
</tr>
<tr>
<td>2</td>
<td>Implementation of diagnostic services</td>
<td>32</td>
<td>54.2</td>
</tr>
<tr>
<td>3</td>
<td>Service flexibility (individual approach to each patient)</td>
<td>29</td>
<td>49.2</td>
</tr>
<tr>
<td>4</td>
<td>Staff professionalism</td>
<td>25</td>
<td>42.4</td>
</tr>
<tr>
<td>5</td>
<td>Service speed</td>
<td>13</td>
<td>22</td>
</tr>
</tbody>
</table>

Participants who took part in the survey, on average, noted 2.5 factors that, in their opinion, are of primary importance. At the same time, it follows from the data in Table 2 that all the aspects proposed as possible, in the opinion of the respondents, require improvement in the first place. The leading position was taken by the improvement of the very process of counseling when dispensing medicines. Its relevance was indicated by 64.4% or 38 respondents. More than half of the pharmacy specialists - 32 respondents (54.2%) noted the need to introduce diagnostic services. Almost half - 49.2% (29 respondents) emphasized the importance of aspects of the service itself (an individual approach to each patient). The importance of improving the professional skills of personnel concerning PhC was noted by 42.4% (25 respondents).
respondents). And 22% (13 respondents) considered the speed of service to be an aspect that needs improvement.

Thus, the level of provision of PhC for the dispensing of OTC-drugs in the surveyed pharmacies was insufficient. Moreover, this opinion was fully shared by the overwhelming majority of the surveyed pharmacy specialists.

We have proposed recommendations for improving the dispensing of OTC-drugs in the following areas:

A) An assessment of the therapeutic need for an OTC-drug is required before its dispensing;
B) It is necessary to identify threatening symptoms requiring a visit to a doctor and the timely referral of the patient for consultation;
C) It is necessary to provide oral recommendations when dispensing OTC-drugs, and in some cases, written recommendations;
D) The irrational use of OTC-drugs must be monitored, and data on such cases must be sent to the appropriate control authorities;
E) It is necessary to develop cooperation at various levels with doctors and other health care professionals on the rational use of OTC-drugs.

Conclusions
1. Based on the results of assessing the quality of pharmaceutical care in the dispensing of OTC-drugs, an insufficient level of it was revealed in several parameters. In particular, information on the studied positions of its provision was provided by pharmacists in pharmacies in the range not exceeding 36-85%.
2. The lowest informational support was occupied by informing patients about the interaction with other medications (36%) and the compatibility of the medicine with food and alcohol (39%).
3. Improving the counseling process during pharmaceutical care was recognized as its most important aspect, which was mentioned by 64.4% of the surveyed pharmacy specialists. And almost half of them (49.2%) emphasized the importance of aspects of the service itself (an individual approach to each patient).
4. As a result of the work, recommendations were proposed on priority measures to improve pharmaceutical care in urban pharmacies in the city of Alexandria.

References