

COMPARATIVE ANALYSIS AMONG UKRAINIAN AND POLISH CONSUMERS ATTITUDE TO PHARMACIES AND PREFERENCES REGARDING THEIR CHOICE

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Introduction

Today in Ukraine, the active commercialization of the process of health care by medical and pharmacy institutions caused to public distrust in the existing health care system. As a result, on the background of declining drug availability, the number of cases of self-medication and uncontrolled drug use increased. However, the social demand of the population to receive quality, affordable, timely pharmaceutical care remains high [1]. This fact necessitates the transition to another model of health care, and reforming both the Ukrainian health care system in general and pharmaceutical supply in particular.

Therefore, it is important to experience the leading countries of the world, especially neighboring countries that develop rapidly and qualitatively in this aspect of formation a strategy for the development of any system (national security, health care, pharmaceutical supply, etc.).

The modern system of pharmaceutical supply is an open system [2,3], which actively responds to changes in the environment (society, consumers, the state, the international professional community, other stakeholders) and forms certain standards of relations with all its subjects.

It should be noted that pharmaceutical supply is a complex multifaceted phenomenon that combines organizational and economic, special (medical and pharmaceutical) and social measures aimed at preserving, improving and eliminating physical and, as a consequence, moral suffering of people with the use of drugs and medical devices. According to the Constitution of Ukraine, the Law of Ukraine "About Health Care", it is provided regardless of social and to the work of Polish pharmacists and ways

material status of citizens in society, race and nationality, religion, citizenship, age, gender, sexual orientation, etc. [4].

A clear understanding of the role of each pharmaceutical business entity in the health care system and their place in society at the time of reform is required before choosing a vector for the development or measures to reform the existing pharmaceutical supply system. This approach allows you to further explore the feedback and identify the demands of society that cause changes in the pharmaceutical system itself, or will improve the work of the components of the pharmaceutical system on individual parameters.

Within the above noted regarding the specified researches on studying of various process aspects of the pharmaceutical organizations mutual relations with all stakeholders in comparison with the best international practices are actualized: factors of influence, necessary resources, information, legal base, self-regulation system, etc.

Problematic issues in the field of optimization and improvement of pharmaceutical care are of scientist's interest from different countries [5.6]. For example, the work of Volmer at al. [7] is devoted to the analysis of the activity of Estonian pharmacies; issues of legal nature of the process of communication between pharmacists and visitors to pharmacies in Northern Europe are considered in Svensberg work at al. [8].

Also there were questions raised in the work of El Hajj MS at al. [9] about the specifics of pharmaceutical care and problems in the work of Qatar pharmacists; and in the work of Kopciuch at al. [10] there were identified obstacles to improve the quality of service in Polish

pharmacies.

Taking into account one of the modern medicine and pharmacy principles – orientation to patient, a key role in the list of stakeholders in pharmacy belongs to consumers of pharmaceutical products and services. They significantly

In addition, they are active participants in the process of forming the image of a pharmaceutical company and loyalty to a particular pharmacy. At the time of the beginning of the relationship with pharmaceutical institutions, the consumer already has some idea about the work of pharmacies, their specifics, and their role in the process of pharmaceutical care or in the medical treatment of any disease. However, by contacting the pharmacy directly, these perceptions may change, which will further affect the preferences and loyalty of consumers to both the pharmaceutical company and the pharmaceutical product.

Therefore, the aim of our work was to study the consumer's attitude in Ukraine and Poland to pharmaceutical products, pharmacies, their views on the place of pharmacies in the drug supply system. That was analyzed in regards to further use of the information in choosing the strategy of Ukrainian pharmacy and behavior of all pharmaceutical business.

Material and methods

The publications of fundamental and applied research of domestic and foreign scientists on the social role of pharmacy, socially responsible behavior of the pharmaceutical business, the formation of consumer loyalty; national and international regulations governing the activities of pharmaceutical organizations were used as materials for the research.

The methods of information search, synthesis, generalization, formalization, questionnaire, comparative analysis were used.

For the comparative analysis, two neighboring countries were selected - Ukraine and Poland. The opinion and attitude of pharmacy visitors to the work of pharmacies, the services they provide, and the level of service were studied. A special questionnaire was developed to conduct a consumer survey. It consisted of two parts. The first part - allowed to form a "portrait" of a modern visitor to the pharmacy, as it contained questions about gender, age, level of education of respondents. The second part included 5 questions about the reasons for con-

This situation can be explained by the fact that in Ukrainian society, women have a greater

influence the formation of inquiries about the range of goods, additional services from pharmaceutical companies; encourage the pharmaceutical business to develop and implement a variety of marketing activities for their products.

tacting the pharmacy; factors that prompted the choice of this pharmacy; awareness of the range of offers and services from the pharmacy during pharmaceutical care; determining the most accurate definition and social role of the pharmacy in the modern healthcare system. These questions were divided into two groups: multiple choice and single answer.

Visitors to pharmacies were offered to answer questions in written or electronic format (the electronic version was created using Google forms). The interview was conducted only with the consent of the respondents, confidential. As a result of the research, 300 questionnaires were received, among which 259 were valid: 142 questionnaires from Polish respondents (visitors to 9 pharmacies in Warsaw, Kielce, and Rzeszow) and 117 questionnaires from Ukrainian consumers (9 pharmacies in Zaporizhzhia, Kherson, Mykolayiv).

These pharmacies are typical for Ukraine and Poland (behind the production facilities - a pharmacy of officinal drugs, pharmacies have the same staff, active use of marketing incentives for consumers).

To determine the sample size, it was assumed that the margin of error in marketing research is 10%, variation for the sample - 50%, confidence ratio (standard deviation) - 1.64 (confidence interval $p = 0.9$), $\Delta p = 0.1$. Wilson's method was used to calculate the confidence interval. The required sample size was 67 respondents in each country.

The accumulation, adjustment, systematization of the source information and visualization of the results were carried out in Microsoft Office Excel spreadsheets. Statistical analysis was performed using the program STATISTICA.13, license IPZ8041382130ARCN10-J.

Discussion and conclusions

The processing of 259 questionnaires made it possible to characterize modern visitors to pharmacies in Ukraine and Poland. It was established that women are more likely than men to visit Ukrainian pharmacies. Gender equality is inherent among visitors to Polish pharmacies. responsibility for care and prevention not only for themselves but also for all family membe

In addition, we note a small difference in the level of education among customers of pharmacies in the two countries.

The survey first clarified the need for the consumer to go to the pharmacy. The results of the answers of domestic and Polish respondents are presented in Table 1.

The majority of respondents in the two segments turn to the pharmacy for the purchase of over-the-counter drugs and prescription drugs. As for the individual production of medicines by a pharmacy, this service is more in demand among Polish visitors than in Ukraine. This state of affairs can be explained by the gradual loss of interest in the Ukrainian pharmacy business to the production function (high cost of service) and the emphasis on maximizing profits from the sale of officinal pharmaceutical products.

It should be noted that almost the same percentage of Ukrainian and Polish pharmacy users need other services (consultations on various issues) when applying to a pharmacy.

The next step in the research was to determine the preferences of consumers (Table 2) regarding the choice of a particular pharmacy (factors that form loyalty to the pharmacy).

Low prices for medicines and convenient location (on the way to work or home; near the supermarket, next to work, etc.) of the pharmacy became important loyalty factors of Ukrainian

consumers with the highest frequency of choice. Instead, the main factors of Polish loyalty to the pharmacy are the pleasant staff / quality of service and the convenience of the pharmacy's location.

Respondents were also asked to identify issues at work of pharmacies and provide advice to pharmacy management to improve the pharmaceutical services provided by selected pharmacies.

When planning the study and developing the questionnaire, we were concerned about the opinion of pharmacy visitors about the place and role of a modern pharmacy in the system of pharmaceutical care. Therefore, the questionnaire included questions about the most accurate definition of the pharmacy (you understand and perceive it that way). «For you, the Pharmacy is...» and «specify all the services known to you that the pharmacy provides».

In addition, we tried to find out whether there is a dependence on the sex of respondents, their geolocation (Tables 3) in the results of consumer opinions on the above issues. To do this, we assessed the presence of relationships between phenomena, determined the closeness of the relationships of these phenomena, using the criterion χ^2 , (Yates's correction and the likelihood correction), and determined the closeness of the phenomena by Cramer and Pearson conjugation coefficients.

Table 1. Frequency analysis of answers to the question "Why did you go to the pharmacy?"

| Services they use | Ukraine | | | Poland | | |
|--|------------|---------------------------------|---------------|------------|---------------------------------|---------------|
| | Frequency | Share in the respondents number | 90% CI, p=0,1 | Frequency | Share in the respondents number | 90% CI, p=0,1 |
| Purchase of prescription drugs | 57 | 0,4872 | 0,4123-0,5626 | 59 | 0,4155 | 0,3497-0,4845 |
| Purchase of over-the-counter drugs | 100 | 0,8547 | 0,7931-0,9003 | 119 | 0,8380 | 0,7809-0,8825 |
| Individual production of prescription drugs | 14 | 0,1197 | 0,0787-0,1778 | 52 | 0,3662 | 0,3028-0,4346 |
| Consultation on the specifics of drugs, their side effects | 12 | 0,1026 | 0,0651-0,1580 | 24 | 0,1690 | 0,1236-0,2268 |
| Consultation on storage of medicines at home | 4 | 0,0342 | 0,0154-0,0740 | 8 | 0,0563 | 0,0320-0,0972 |
| Total | 187 | 117 | | 254 | 142 | |

A comparative analysis of the responses of Polish and Ukrainian respondents showed that for most Ukrainians, a pharmacy is first and foremost a commercial establishment (the pre-

vailing opinion is that everything can be purchased, there are no restrictions on any drug). The answers of Polish pharmacy visitors differ. These respondents consider a pharmacy as a

health care institution (an institution that provides pharmaceutical care, advises on the use of drugs, compatibility, storage, etc.).

The obtained results can be considered as corresponding to the real frequency distribution in the population, which allows to draw a con-

clusion about the influence of the geolocation of respondents on what object is a pharmacy for the patient ($\chi^2_{est.} > \chi^2_{tab}$; $p\text{-value} < 0,05$). The Cramer and Pearson conjugation coefficients for multiple tables indicate a relatively strong relationship between these metrics.

Table 2. Frequency analysis of answers to questions about the factors of consumer loyalty to pharmacies

| Services they use | Ukraine | | | Poland | | |
|---|------------|---------------------------------|-----------------|------------|---------------------------------|-----------------|
| | Frequency | Share in the respondents number | 90% CI, $p=0,1$ | Frequency | Share in the respondents number | 90% CI, $p=0,1$ |
| Near the house | 40 | 0,3419 | 0,2741-0,4169 | 63 | 0,4437 | 0,3768-0,5127 |
| Convenient location | 57 | 0,4872 | 0,4123-0,5626 | 41 | 0,2887 | 0,2306-0,3548 |
| Pleasant staff | 23 | 0,1966 | 0,1433-0,2636 | 80 | 0,5634 | 0,4944-0,6300 |
| Low prices | 72 | 0,6154 | 0,5396-0,6860 | 50 | 0,3521 | 0,2895-0,4202 |
| A wide range is available on site | 37 | 0,3162 | 0,2504-0,3904 | 58 | 0,4085 | 0,3429-0,4774 |
| Additional consultation | 29 | 0,2479 | 0,1884-0,3187 | 20 | 0,1408 | 0,0995-0,1956 |
| Availability of drugs only in this pharmacy | 6 | 0,0513 | 0,0267-0,0961 | 8 | 0,0563 | 0,0320-0,0972 |
| Discounts | 38 | 0,3248 | 0,2582-0,3993 | 0 | 0 | 0 |
| Pharmacy design | 2 | 0,0171 | 0,0057-0,0503 | 0 | 0 | 0 |
| Order online | 2 | 0,0171 | 0,0057-0,0503 | 0 | 0 | 0 |
| Total | 306 | 117 | | 320 | 142 | |

When comparing the answers of Polish and Ukrainian respondents, it was found that the frequency of choices «product assortment» and the «Staff behavior / quality of service» in pharmacies differ slightly. It should be noted that Ukrainian respondents often choose one criterion of the problem, while Polish respondents see several problems at the same time. This indicates that their requirements for the pharmacy are higher than for Ukrainian consumers.

The obtained results can be considered corresponding to the real distribution of frequencies in the population, which allows to draw a conclusion about the respondent's geolocation influence on the choice of the outlined problems ($\chi^2_{est.} > \chi^2_{tab}$; $p\text{-value} < 0,05$). The Cramer and Pearson conjugation coefficients for multi-

ple tables indicate an average relationship between these metrics.

In addition to these problems, the answers of respondents from both countries drew attention to the presence of visitors queues in pharmacies; artificially forcing the purchase of goods in the pharmacy range. This answer prevailed mainly in Polish pharmacies.

In general, the research allowed to establish the distinctive features of the Polish pharmacy segment from the Ukrainian: the presence of strict regulation of the release (Rx-drugs only by prescription) of drugs, a high percentage of extemporaneous drugs by prescription (manufactured in pharmacies) and mandatory consultation about medicines storage at home.

Table 3. Comparative analysis of answers to questions about the understanding and perception of the pharmacy as an institution - for you Pharmacy - is:

| Question | Country | Obtained values | Expected values | The value of χ^2 | Yates's correction | Correction on likelihood |
|---|---------|-----------------|-----------------|-----------------------|--------------------|--------------------------|
| Trade establishment (purchase and sale processes prevail) | Ukraine | 66 | 49,0977 | 5,8188 | 5,4796 | 19,5256 |
| | Poland | 25 | 41,9023 | 6,8179 | 7,2273 | -12,9116 |
| Health care facility | Ukraine | 37 | 49,0977 | 2,9809 | 3,2323 | -10,4670 |
| | Poland | 54 | 41,9023 | 3,4927 | 3,2099 | 13,6967 |
| The institution where medication is provided | Ukraine | 13 | 17,8047 | 1,2966 | 1,5804 | -4,0886 |
| | Poland | 20 | 15,1953 | 1,5191 | 1,2194 | 5,4948 |
| Estimated value | | | | 21,9260 | 21,949 | 22,4997 |
| Tabular value | | | | 5,991 | | |
| p-value | | | | 1,73304E-05 | 1,71316E-05 | 1,3009E-05 |
| $\alpha=0,05$; $df=2$ | | | | | | |
| Cramer conjugation coefficient | | | | 0,5531 | | |
| Pearson conjugation coefficient | | | | 0,3033 | | |

Conclusions

The study showed that the main motive for consumers of pharmaceutical products to pharmacies in both countries is the purchase of official drugs. Unlike Ukrainian consumers, Polish pharmacy visitors are almost four times more likely to seek personalized medicines and pharmaceutical supplies.

The study of the visitor's opinion to pharmacies in Ukraine and Poland on the place of the pharmacy in the system of pharmaceutical care allowed to establish that Ukrainian consumers, unlike Polish, perceive the pharmacy as a commercial institution. A characteristic factor of loyalty, which the Ukrainian consumer emphasizes, is the price of the drug, in contrast to the Polish respondent, where the main factor in choosing a pharmacy is attentive and friendly staff.

The main problems, as noted by Ukrainian

consumers, in modern pharmacies, should include the wide assortment range. This reaction of the consumer is due to concerns about the price characteristics of drugs with a simultaneously small range in certain drug groups. In addition to the range, consumers are concerned about the presence of queues which artificially incentives to buy certain drugs, which occurs in Polish respondents 3 times more often than in Ukrainian consumers.

Therefore, the management of the Ukrainian pharmacy segment should actively work on the formation of a positive professional (pharmaceutical) image of its institution in society, which should be socially oriented and responsible in providing pharmaceutical care.

Conflict of interest

The authors declare no conflict of interest.

References

1. Nemchenko A. Lyadenko A. Analysis of state programs to ensure the availability of medical and pharmaceutical care to the population during the years of Independence of Ukraine. Social pharmacy in health care, 2021, 7(2), p. 18-26.
2. Satzinger W., Jackson B., Burd D. Systems Analysis and Design in a Changing World, Sixth Edition John, 2012, p. 486.
3. Bevilacqua M., Mazzuto G., Parciarotti C. A combined IDEF0 and FMEA approach to healthcare management reengineering. Int. J. Procurement Management, 2015, 8, p. 25-43.

4. Tkachenko N., Ryzhov O., Hromovyk B. System theory as a tool for searching for new scientific directions and problematic aspects of pharmacy in the context of social responsibility. *Current issues in pharmacy and medicine: science and practice*. 2020, 13(3), p. 394–400.

5. Hromovyk B, Kremin Yu. Features of pharmacist's professional roles realization in the Ukrainian realities. *Management, economy and quality assurance in pharmacy*. 2020, (1), p. 42-49.

6. Dalton K., Byrne S. Role of the pharmacist in reducing healthcare costs: current insights. *Integrated Pharmacy Research and Practice*. 2017, 6, p. 37–46.

7. Volmer D., Vendla K., Vetka A., Bell J.S., Hamilton D. Pharmaceutical care in community pharmacies: practice and research in Estonia. *Ann Pharmacother*. 2008, 42(7), p. 1104-11.

8. Svensberg K., Källemark S., Björnsdottir I. A review of countries' pharmacist-patient communication legal requirements on prescription medications and alignment with practice: Comparison of Nordic countries. *Research in Social and Administrative Pharmacy*. 2015, 11(6), p. 784-802

9. El Hajj M., Al-Saeed H., Khaja M. Qatar pharmacists' understanding, attitudes, practice and perceived barriers related to providing pharmaceutical care. *Int J Clin Pharm*. 2016, 38(2), p. 330-43.

10. Kopciuch D., Paczkowska A., Zaprutko T., Ratajczak P., Nowakowska E., Kus K. (2021) A survey of pharmacists' knowledge, attitudes and barriers in pharmaceutical care concept in Poland. *BMC Med Educ*. 2021, 21(1), p. 458.

UKRAYNA VƏ POLŞA İSTEHLAKÇILARININ APTEKLƏRƏ MÜNASİBƏTİ VƏ SEÇİMLƏRDƏ ÜSTÜNLÜK VERDİYİ AMİLLƏRİN MÜQAYİSƏLİ TƏHLİLİ

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Açar söz: müqayisəli analiz, aptek müştəriləri, sosial aptek

Bu gün dərman istehlakçıları əczaçılıq sahəsində maraqlı tərəflər siyahısında mühüm rol oynayır. Onlar əczaçılıq biznesini istehlakçıların sadıqlılığını artırmaq üçün müxtəlif marketinq fəaliyyətlərini inkişaf etdirməyə və həyata keçirməyə təşviq edirlər.

Buna görə də Ukrayna əczaçılığının inkişafının yeni strategiyalarının seçilməsi üçün Ukrayna və Polşadan olan istehlakçıların apteklərə münasibəti, həmçinin də apteklərin dərman təchizatı sistemindəki yeri haqqında fikirləri öyrənilmişdir.

Hər iki ölkənin apteklərinə müraciət etməyin əsas motivi rəsmi dərmanların alınmasıdır. Bununla belə, polşalı ziyarətçilərin sifarişlə hazırlanmış dərmanları axtarma ehtimalı təxminən dörd dəfə çoxdur. Ukraynalı istehlakçılar aptekləri ticarət obyektinə kimi qəbul edir və diqqətini ona yönəldirlər. Sadıqlılığın əsas amili dərmanın qiymətidir. Polşalı respondent üçün aptek seçimində əsas amil peşəkar münasibət və gülərtiz personaldır.

Ukrayna apteklərinin problemlərinə çeşidin genişliyi daxildir. Növbələrin olması və alışın süni stimullaşdırılması polşalı respondentlər üçün problemləli məqamdır.

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Key words: comparative analysis, pharmacy visitors, social pharmacy

Today, consumers of medicines play a significant role in the list of pharmaceutical stakeholders. They encourage the pharmaceutical business to develop and implement various marketing activities to increase consum-

er's loyalty.

Therefore, the attitude of consumers from Ukraine and Poland to pharmacies, opinions on the place of pharmacies in the drug supply system was studied for choosing new strategies of the development of Ukrainian pharmacy.

The main motive to apply to pharmacies in both countries is to purchase officinal medicines. However, Polish visitors are almost four times more likely to seek custom-made medicines. Ukrainian consumers perceive a pharmacy as a trading establishment and focus on that. The main factor of loyalty is the price of the drug. For the Polish respondent the main factor in choosing a pharmacy is professional attitude and friendly staff.

The problems of Ukrainian pharmacies include the breadth of the assortment. The presence of queues and artificial stimulation of purchase is a problematic point for Polish respondents.

СРАВНИТЕЛЬНЫЙ АНАЛИЗ ОТНОШЕНИЯ УКРАИНСКИХ И ПОЛЬСКИХ ПОТРЕБИТЕЛЕЙ К АПТЕКАМ И ПРЕДПОЧТЕНИЙ ОТНОСИТЕЛЬНО ИХ ВЫБОРА

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Ключевые слова: *сравнительный анализ, посетители аптек, социальная аптека*

Сегодня потребители лекарственных средств играют значительную роль в списке стейкхолдеров фармацевтической отрасли. Они стимулируют фармацевтический бизнес к разработке и внедрению различных маркетинговых мероприятий для повышения лояльности потребителей.

Поэтому было изучено отношение потребителей Украины и Польши к аптекам, мнения о месте аптек в системе лекарственного обеспечения для выбора новых стратегий развития украинской фармации.

Основным мотивом обращения в аптеки обеих стран является приобретение официальных препаратов. Однако польские посетители почти в четыре раза чаще ищут лекарства, изготовленные на заказ. Украинские потребители воспринимают аптеку как торговое заведение и ориентируются на это. Главный фактор лояльности – цена препарата. Для респондента из Польши главным фактором при выборе аптеки является профессиональное отношение и приветливый персонал.

К проблемам украинских аптек можно отнести широту ассортимента. Проблемным моментом для польских респондентов является наличие очередей и искусственное стимулирование покупки.

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