

**ISCKMC 2022****International Scientific Congress «KNOWLEDGE, MAN AND CIVILIZATION»****PHARMACY CHOICE FACTOR ANALYSIS AMONG  
CONSUMERS DURING PANDEMIC**

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**Abstract**

The analysis of consumer preferences makes it possible to identify the main behavior parameters, which determine – among other things – loyalty to the place of purchase. This study is aimed at studying consumer preferences when choosing a pharmacy organization, as well as determining the importance of such a parameter of pharmacy activity as the ability to purchase medicines remotely. According to the literature data, the main factors in choosing a pharmacy organization by consumers are identified. The list of factors is adjusted based on the conditions of the pandemic and new regulations that allowed a remote sale of medicines. These data are the basis of the developed questionnaire, according to which a survey is conducted covering 417 of respondents from 21 Regions of the Russian Federation. Following the survey results, the main behavioral, economic, social and demographic characteristics of the consumers are established. Besides, the portraits of consumers are compiled, taking into account the identified importance of a particular factor for them, which in the future will allow developing personalized marketing offers.

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## 1. Introduction

In order to provide high-quality pharmaceutical care and maintain the economic stability of their organization, pharmacies need to improve work with their clients all the time. The study of the importance of the factors that determine the place of purchase of pharmacy products helps increase loyalty to a particular place of purchase and, as a result, is the key to the successful development of pharmacies (Kevrekidis, 2018).

It was established that the consumer loyalty is a complex concept that includes a number of parameters that help characterize consumers in more detail: (1) behavior (making repeated purchases), (2) emotions (subjective opinion, experience, brand loyalty, etc.), (3) rationality (value assessment), (4) satisfaction, (5) desire to make a purchase again, (6) probability of switching to competitors (Galkina, 2019). Based on this data, the pharmacy organization can successfully adjust its policies to create new and strengthen existing relationships with the customers.

In previous studies, it was noted that the main competitive advantages of a pharmacy chain are pricing policy and location (Gurina & Sazykina, 2015). However, the trend of recent years indicates a gradual change in the priority of factors that guide consumers when choosing a pharmacy organization. Thus, it was found that such parameters as product mix and service culture are gradually taking the leading positions (Doduhova, 2019).

Currently, the introduction of information technologies into the practice of pharmacy organizations is actively growing (Patak, 2014) The pandemic period has greatly exacerbated the need to be able to purchase medicines online, without having to visit a pharmacy (Guthrie, 2021).

Since 2020, on the basis of the Government Decree of the Russian Federation of 16 May 2020 No. 697 On Approval of the Rules for Issuing Permits for Remote Retail Sale of Medicinal Products for Medical Use, the Implementation of Such Trade and the Delivery of these Medicinal Products to Citizens and Amendments to Certain Acts of the Government of the Russian Federation for Remote Retailing of Medicinal Products for Medical Use the pharmacy organizations were able to sell OTC pharmaceuticals remotely.

Currently, the results of the analysis of the pharmaceutical market indicate a stable growth in online sales. Thus, in 2021, this segment occupies 8.3 % of the total capacity, while in the previous year the figure was 6.2 % (DSM Group, 2021). In the near future, the possibility of establishing a pilot legal regime for the distance selling of a limited list of prescription drugs is being considered. This, in turn, will further expand the scope of online sales (Shuvalova, 2022).

## 2. Problem Statement

The pandemic period has significantly accelerated the process of introducing new technologies into the pharmaceutical market. Changes in daily life have led to a gradual shift in consumer priorities when choosing where to shop. Constant monitoring of trends and adjustment to changing conditions significantly increases the competitiveness of a pharmacy organization and helps provide high-quality pharmaceutical care to the population.

### **3. Research Questions**

To identify and classify the factors of choice by the consumer of a pharmacy organization, study the results of existing studies on consumer behavior (choice factors) according to the literary sources.

- i. To study the main directions of information technology application in pharmacy organizations; analyze the regulatory framework governing this activity;
- ii. To conduct a sociological study of the consumers, i.e. to develop a questionnaire, conduct a survey based on the Google Internet platform;
- iii. To assess the choice factors importance and build the main trends in the choice of a pharmacy organization by a consumer.

### **4. Purpose of the Study**

The purpose of this study is to study and analyze the factors of choosing a pharmacy organization by a consumer during a pandemic.

### **5. Research Methods**

Sociological research (questionnaire) and economic and statistical (graphical method, classification, etc.) methods. Mathematical processing of the information array was carried out using modern computer technologies.

### **6. Findings**

At the first stage of this study, based on the analysis of the literature data, the factors of the consumer's choice of the place to make purchases of pharmacy goods were identified. New factors were established, the emergence of which occurred due to the sanitary and epidemiological situation associated with the spread of coronavirus infection (COVID-19). The legal framework regulating the circulation of drugs, including allowing pharmacies to sell drugs remotely, has been studied. Based on the information mentioned above, a list of the main factors that play an important role in choosing a place to make a purchase was formed: (1) pricing policy (the prices and discounts/discount cards), (2) competent staff, (3) design and cleanliness of the trading floor, (4) availability of necessary goods, (5) availability of related products, (6) mode and organization of work; (7) pharmacy belonging to a well-known network, (8) advertising of a pharmacy in the media, (9) outdoor advertising of a pharmacy, (10) possibility of ordering via the Internet/mobile application, (11) ability to receive a medicine ordered via the Internet (issuing an Internet orders), (12) availability of home delivery services. It should be noted that only factors that depend on the activities of the pharmacy organization were included into this study.

To perform a detailed analysis of consumer preferences when choosing a pharmacy organization, as well as to determine the attitude of visitors to the purchase of drugs remotely, there have developed a special questionnaire (Google Forms).

This method of questionnaire was preferred for a number of reasons listed below:

- Possibility of seamless dissemination (including different regions), which helped to significantly increase the sample size and breadth of coverage;
- Speed and convenience of data processing;
- Overcoming the restrictions that arose during the pandemic due to the inability to interview respondents in person;
- Organizational flexibility: the respondent is given the opportunity to choose a convenient time and place for taking the survey;
- Resource saving.

The questionnaire included three blocks:

The first was devoted to the analysis of the parameter importance of the pharmacy organization for the consumer. To do this, the respondent was offered a list of factors, each of which had to be given a subjective assessment of the degree of importance using the Likert scale (1 – not important, 5 – neutral, 10 – very important). Such a method made it possible to further quantify the priority of each of the proposed parameters.

To compile a general picture of behavioral and economic characteristics in the second block, the respondents were asked closed-type questions with polyvariant answers, aimed at identifying the following information: preferences when choosing a pharmacy organization, frequency of visiting them, degree of interest in online delivery services, as well as the average check survey participants.

In the third block, questions of a closed type were presented to determine social and demographic characteristics of the respondents: their gender, age, marital status, educational status, as well as the average monthly income per family member. The answers were also polyvariant and made it possible to draw up an average statistical profile of the survey participants.

The results of the survey are presented below:

The survey involved 417 respondents from 21 Regions of the Russian Federation. Based on the results of the survey, a portrait of the average consumer was compiled: An unmarried (63.1 %) woman (73.1 %) aged 16 to 30 (64.3 %), having university degree (64.5 %), with an average monthly income per family member of more than 30 thousand rubles, visiting a pharmacy no more than 2–3 times a month (56.1 %) only when she falls ill (40 %).

After that, a rating of choice factors was developed. It was found that when choosing a pharmacy organization, the availability of necessary goods (9.53 points), competent staff (8.68) and prices (8.61) were of the greatest importance for the consumer.

Factors such as the ability to receive a drug ordered via the Internet (7.03), possibility of ordering through a mobile application/Internet site (5.77) and availability of a home delivery service (5.45) ranked sixth, eighth and ninth in the ranking places, respectively (Table 01).

**Table 1.** Overall ranking of the importance of factors when choosing a pharmacy organization

No.	Factor	Average score	8–10 points, %
1	Availability of the required product	9.53	93.5
2	Competent staff	8.68	81.6
3	Working hours and organization of work (including absence of	8.17	70.7

queues)			
4	Pricing policy (prices and discounts/discount cards)	8.11	70.3
5	Store layout and cleanliness	8.00	67.9
6	Opportunity to receive medical product ordered via the Internet	7.03	56.6
7	Availability of related products (medical cosmetics, medical equipment, etc.)	6.32	44.1
8	Possibility to order medical product through a mobile application	5.77	40.2
9	Home delivery service	5.35	32.1
10	Pharmacy name (belonging to a well-known network, brand)	4.91	32.2
11	Eye-catching outdoor advertising	4.67	22.0
12	Pharmacy advertising in media	3.84	13.7

It is worth noting that this survey was conducted in November 2020, when distance selling was still at the initial stages of implementation. Since this system has undergone a number of upgrades since then, which contributed to its improvement and distribution, it can be assumed that the distribution of the importance may have changed in favor of the sale of medicines via the Internet.

At the next stage of the study, the factors related to the sale of medicines remotely were studied.

The possibility of ordering through a mobile application was rated 8-10 points by 40% of the respondents. Most of this segment are women (69.6%). The age of 68.5% of consumers was 16-30 years old (26.8% – from 16 to 21 years old; 31.7% – from 22 to 30 years old). The majority (76.7%) of the respondents live in Moscow and the Moscow Region (Moscow – 44.6%, Moscow Region – 32.1%), have university degree (67.3%) and are not married (63.1%). The frequency of visits to pharmacies of 56 % of consumers was no more than two or three times a month (18.5% – once every 2–3 months; 37.5% – only when they get sick), while the average check of the majority (63.1%) making a purchase is up to 1000 rubles (16.1% – up to 500 rubles, 47.0% – from 500 to 1000 rubles). The average monthly income of the majority of respondents (52.3%) amounted to more than 40,000 rubles (40–50 thousand rubles – 16.1%; over 50 thousand rubles – 36.2%).

The possibility to receive drugs ordered via the Internet was an important or decisive factor for 56 % of respondents. It was found that the majority of respondents were women (72.0 %), and the age of the majority (69.1 %) was from 16 to 30 years old (from 16 to 21-32.2%, from 22 to 30-36.1%). The majority (79.2%) of the respondents live in Moscow (48.3%) and the Moscow Region (30.9%), have university degree (66.1%) and define their marital status as single (65.3%). The results of the survey showed that respondents predominantly (53.8%) visit the pharmacy no more than once every 2-3 months (33.9% – only when they fall ill, 19.9% - once every 2-3 months), while in the average amount when making purchases in a pharmacy is from 500 to 1000 rubles (50.4%). The average monthly income per person in the family of the majority of respondents (59.8%) is more than 30 thousand rubles (19.1% – from 30 to 40 thousand rubles, 16.5 % – from 40 to 50 thousand rubles, 24, 2% – over 50 thousand rubles).

The results of the survey showed that among 417 respondents, 32% consider the availability of home delivery an important or decisive factor when choosing a pharmacy organization (rated 8-10 points). Most of this segment was made up of women (64.2%). The age of 67.9 % of consumers was 16-30 years old (29.1% – from 16 to 21 years old; 38.8% – from 22 to 30 years old). The prevailing share (77.6%) of the respondents were residents of Moscow and the Moscow Region (Moscow – 50.7%,

Moscow Region – 27.6%), with university degree (56 %) and were single (64.9 %). The survey showed that 54.5% of consumers visited the pharmacy no more than two or three times a month (17.2% – once every 2-3 months; 37.3% – only when they get sick), while the majority (67.2 %) spent up to 1000 rubles on pharmacy goods (17.9% – up to 500 rubles, 49.3% – from 500 to 1000 rubles). The average monthly income of the majority of respondents (62.7%) amounted to more than 30,000 rubles (30-40 thousand rubles – 14.9%; 40-50 thousand rubles – 15.7%; over 50 thousand rubles – 32.1%).

The results are presented in Table 02.

**Table 2.** Average consumer portrait who prefers to purchase medical products remotely

Factor	Gender	Age	Income	Average purchase amount (rub)	Frequency of visiting of pharmacy
Delivery service	Women (64.2 %)	<b>16–30 (67.9 %):</b>	<b>Over 30 thousand rub. (62.7 %):</b>	<b>Up to 1000 (67.2 %):</b>	<b>No more than 2–3 times a month (54.5 %):</b>
		16–21 (29.1 %)	30–40 thousand rub. (14.9 %);	up to 500 (17.9 %);	Once every 2–3 months (17.2 %)
		22–30 (38.8 %)	40–50 thousand rub. (15.7 %);	500–1000 (49.3 %)	Only when I get sick (37.3 %)
Possibility to order via mobile application	Women (69.6 %)	<b>16–30 (68.5 %):</b>	<b>Over 40 thousand rub. (52.3 %):</b>	<b>Up to 1000 (63.1 %):</b>	<b>No more than 2–3 times a month (56.0 %):</b>
		16–21 (26.8 %);	40–50 thousand rub. (16.1 %);	up to 500 (16.1 %);	Once every 2–3 months (18.5 %)
		22–30 (31.7 %)	over 50 thousand rub. (36.2 %)	500–1000 (47.0 %)	Only when I get sick (37.5 %)
In this pharmacy I can get medicine ordered online	Women (72.0 %)	<b>16–30 (69.1 %):</b>	<b>Over 30 thousand rub. (59.8 %):</b>	<b>From 500 to 1000 rub. (50.4 %)</b>	<b>No more than 2–3 times a month (56.0 %):</b>
		16–21 (32.2 %);	30–40 thousand rub. (19,1 %);		Once every 2–3 months (18.5 %)
		22–30 (36.1 %)	40–50 thousand rub. (16,5 %);		Only when I get sick (37.5 %)
			over 50 thousand rub. (24,2 %)		

## 7. Conclusion

Thus, the study shows and determines the importance of the choice factors that depend on the activities of the pharmacy organization and the attitude of visitors to the purchase of medicines remotely. It was revealed that in November 2020, the parameters associated with online sales turned out to be important for a significant part of respondents, and that these values had a positive growth trend.

The parameters obtained and the available results of analytical reports indicate the introduction of the online sale segment into the pharmaceutical market structure. This, in turn, would not only increase the availability of medicines, but could also become an effective tool for attracting new consumers to the pharmacy organization.

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