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PURCHACE BEHAVIOR OF ONLINE PHARMACIES CLIENTS

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Abstract

Sales of pharmaceutical products that do not require a prescription to purchase (over-the-counter drugs and dietary supplements) are increasingly being made in the Czech Republic through Internet pharmacies. If the operators of e-shops are to succeed in the ever-increasing competitive environment, and be better than the competition in satisfying the customers, they need to improve not only their offer, but to increase user-friendliness of the electronic shopping system and improve care for clients of these e-shops. This requires a thorough knowledge of the shopping procedure these clients consider to be the most natural and most appropriate for them. This article summarizes the possible procedures when purchasing through e-commerce and presents the results of a quantitative research by method of online interview among clients of online pharmacies. The goal of this research was to map the reasons that lead clients to shop in an internet pharmacy, purchase frequency and procedure for the purchase of over-the-counter medications and nutritional supplements on the Internet.

Keywords: consumer behaviour, online pharmacies, clients' reasons of purchase by e-shops, steps of clients' purchase by e-shops.

JEL Classification: M10, M40.

Introduction

More and more buyers are using the Internet for shopping. E-shops are chosen as a distribution channel also with the sale of the products which were until recently offered only in the bricks-and-mortar shops, such as pharmaceutical products. This is also the case in the Czech Republic. Legislation in the Czech Republic indicates that the e-shops can only sell over-the-counter medicines and dietary supplements. Sales of pharmaceutical products that may be bought without a medical prescription (over-the-counter drugs and dietary supplements) are increasingly being made in the Czech Republic through Internet pharmacies.

Most e-shops with pharmaceutical products (so called e-pharmacies) limit themselves to the presentation of products and terms of purchase and mediation of the order and delivery of the product. With the growing number of online pharmacies and the growing competition in this sector, the question arises whether this elementary way of offering and selling is sufficient for the customers to be satisfied and willing to shop again in the Internet pharmacy.

It turns out that if these e-commerce operators are to succeed, they need to improve not only their offer according to customers' wishes, but to increase user-friendliness of the electronic shopping system and improve care for clients of these e-shops. This requires a thorough knowledge of how often and why the clients of Internet pharmacies buy OTC medicines and dietary supplements on the internet and these clients consider to be the most natural and most appropriate for them. This approach is very important in contemporary market environment (Kotler, P., de Bes, F. T., 2005; Leboff, G., 2011).

It was a reason why we researched a shopping behaviour of customers of Internet pharmacies by a quantitative research through an online interview among 1.200 random selected customers in September 2011. This research was (among other things) focused on mapping the way of searching and purchasing pharmaceutical products in the e-shop. First it is necessary to explain the clients' procedures when searching for an e-shop and when shopping in it.

The clients' procedures when searching for an e-shop and when shopping in it

Clients purchasing through the Internet can search for an e-shop with certain products in various ways. To be able to operate the target market of the Internet buyers, one needs to necessarily know which ways the e-commerce clients use and how often the particular ways are used by these clients to search for e-shops and products offered therein.

When researching the movement of e-commerce clients, we need to know first what kind of browser the e-shop clients are using (whether it is Internet Explorer, Firefox, Chrome, Opera, Safari, Android Browser, Mozilla Compatible Agent, Opera Mini, SeaMonkey, Mozilla, etc.) and which of them are used more often and

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less often. An e-shop operator can easily get this information with Google Analytics, a tool for tracking e-shop visits.

Upon entering the Internet through the browser, clients are looking for e-shop(s) with certain products. These can be found in several ways (GOOGLE INC. Google Analytics [online], 2012):

- Using search engines. Thus it is possible to enter the e-shop site by entering an appropriate string of keywords into the search engine and then by clicking on one of the links offered.
- From linked sites. The visitor clicks on a link on a different site directing to a specific page of the e-shop site.
- Through direct access. Direct access requires the knowledge of the e-shop's URL[1]. To know the URL of the e-shop, i.e. its domain name, the customer can use various forms of off-line advertising (business cards, shop at bricks-and-mortar pharmacies) or PR campaigns (newspaper articles, sponsoring events). Janouch (2010) refers to another, often used direct access method, which the access from a link in an email message.

Janouch (2010) points out that some links may not included in either of these sources. This happens when the links are tagged and, moreover, non-standard designation of the media is used (URL builder. Google Analytics help [online] (2012)). From the practical point of view, however, it still is an access from some of the three sources.

Upon initial establishment of communication between the customer and e-shop (e.g. online pharmacy) the search engine fulfils a significant role. When searching for a product on the Internet, the customer may enter several types of queries into the search engine. Most authors (e.g. Genoa, D. (2012), Manning, et al. (2008)) agree that these types of queries are:

- navigational,
- informational,
- transactional.

What type of query will be entered depends on many factors. It depends on whether the customer has previously purchased similar products in the e-shop, whether he/she is familiar with the product type or even knows it (knows the exact or at least an approximate title), or on the contrary he/she does not know in the first phase at all what to search. In that case, they are often more likely to enter a query in the online pharmacy stating symptoms of the illness rather than a query about a medication or food supplement. Often in these cases, what matters is the sequence of several queries that gradually refine the search result. These queries can be both navigational and informational or transactional. This begs the question of how to be at the high ranked positions in the search for different types of queries and, at the same time, how to attract the attention of the search engine user, i.e. the potential customer, to our own link among other links in the search results (SERP[2]). This issue is dealt with by the so-called SEO[3], or search engine optimization. Often in these cases, what matters is the sequence of several queries that gradually refine the search result. These queries can be both navigational and informational or transactional. This begs the question of how to be at the high ranked positions in the search for different types of queries and, at the same time, how to attract the attention of the search engine user, i.e. the potential customer, to our own link among other links in the search results (SERP).

SEO is a technique that uses a set of factors that make sure that a certain page appears for a query in the search engine on the high ranked positions in the search results. Generally, these factors are divided into factors located on the website (on-line factors) and outside the site (off-line factors) (Janouch, V., 2010). Some SEO factors not only affect the ranking in the search results, but they may have a direct impact on the behaviour of the customer that entered the query into the search engine. The search engine optimization includes, among other things, the page title and description. In the search results the title will appear as a blue headline of the given link and the description (or a part thereof) shown in black text. If the title and description has been correctly chosen on the page, it may attract customer's attention and make them click on the link. A part of the text of the page may appear as a black text, so it is necessary for the implementation of search engine optimization to pay considerable attention to copywriting. Search engines, however, does not only follow the SEO factors, but they use a variety of other factors for search engine rankings (Janouch, V., 2010). Thus, quality SEO does not necessarily always mean a high ranked position in the SERP.

[1] URL, Uniform Resource Locator

[2] SERP, Search Engine Results Page

[3] SEO, Search Engine Optimization

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Behaviour of customers in finding products on the internet may, however, take other directions with the use of search engines than just clicking on the links in the results. Another procedure may be, as already mentioned, repeated search, i.e. the specification of queries and also their variation or extension. This issue, known as the long tail theory, is dealt with by Anderson (2004), for example. We may use another search engine to enter the same (modified) query or use other information sources. This source may be, for example, shopping comparison sites or discount shopping sites. But this cannot be done with all e-shops. Discount shopping sites, for example, cannot be used due to the specific conditions of online pharmacies with these e-shops.

Shopping comparison sites are used by customers to compare prices and select an e-shop based on reviews by other customers or the overall evaluation of the e-shop. Evaluation of e-shops can only be carried out by the comparison site itself and/or the customers of a particular e-shop. This ensures the objectivity of the evaluation. Customers do not decide just according to the price of the searched product, but also according to other indicia. In addition to the overall evaluation of e-shop they often decide according to shipping firm options, e-shop's willingness in handling complaints or the extent of after-sales marketing communication with the customer (Prikrylova, J., Jahodova, H., 2010). That is the way we can, in addition to direct communication with customers, strengthen relationships with them also through third parties such as search engines or shopping comparison sites.

Methodology of customer shopping behaviour research in online pharmacies

Shopping behaviour of customers of Internet pharmacies was researched in a quantitative research through an online interview. We carried out this quantitative research in September 2011. By a simple random selection 1,200 customers were chosen of an Internet pharmacy from the population of 5,630 clients. Its owner also operates a bricks-and-mortar pharmacy in the centre of Prague and also runs a private clinic for overweight reduction, modification of metabolism and healthy lifestyle. The research was conducted through Internet polling. 761 clients returned the completed questionnaire, representing a 63.4 percent return of questionnaires. The data were processed and analyzed using the IBM SPSS Statistics and through synthesis of the findings obtained. This research was (among other things) focused on mapping the way of searching and purchasing pharmaceutical products in the e-shop and the reasons for repeat purchases in e-shops.

How often they go shopping, what reasons lead them to shop in Internet pharmacies, how they mostly proceed step by step when searching for over-the-counter medicines and nutritional supplements on the Internet. The research was also focused on what the customers of online pharmacies do after searching for products, i.e. whether they immediately buy the product, or first they compare it with other offers and then buy it, or even after they find the product, they look for an expert's assistance on the Internet, or they first go to a bricks-and-mortar pharmacy and only then on an expert's recommendation they buy the product on the Internet. The research was also focused on what and in what order clients consider when shopping before proceeding to buy the product.

Results of customer shopping behaviour research in online pharmacies

Frequency and reasons for online shopping

First it found what percentage of the customers prefers to buy in bricks-and-mortar pharmacies and what percentage in internet pharmacies. Results of the preferences for the type of pharmacy in shopping for over-the-counter drugs and nutritional supplements are summarized in Figure 1.

The research results showed that more than half of the internet pharmacy customers go currently shopping in bricks-and-mortar pharmacies. Shopping rate in both types of pharmacies significantly differ according to education of the clients as the clients with higher education prefer online pharmacies.

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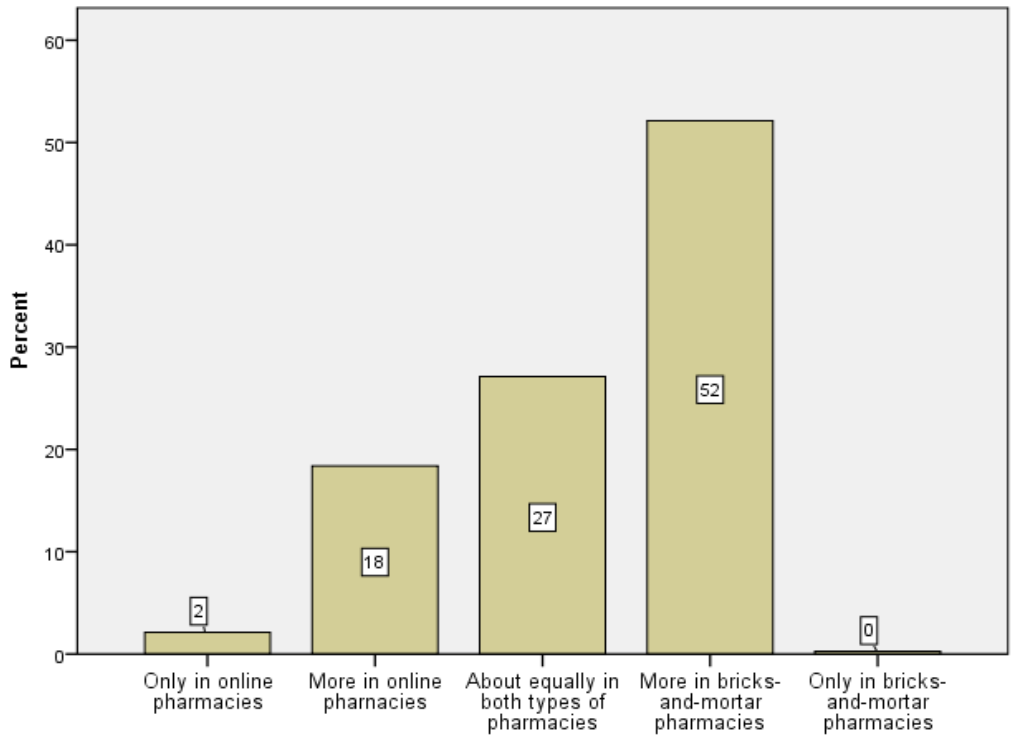

Figure 1. Preferences of shopping in different types of pharmacies

Furthermore, the research focused on how often the customers buy OTC medicines and dietary supplements in online pharmacies (see Figure 2).

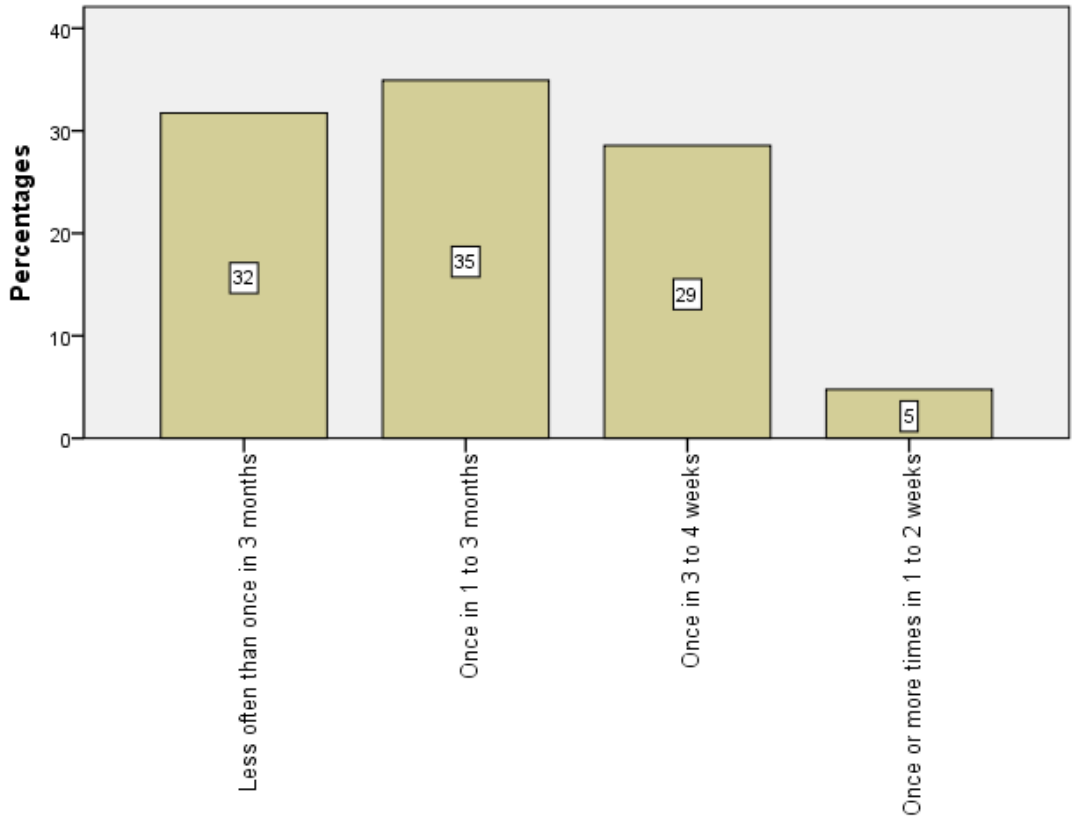

Figure 2. Frequency of purchase in the Internet pharmacy

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Over 60 percent of the respondents go shopping less often or no more often than once in three months. Almost 29 percent of the respondents do the shopping no more often than once a month and the remaining less than 5 percent of the respondents do the shopping in the Internet pharmacy more often than once a month. The group of customers who do the shopping at least once a month (35 percent of the clients) is a group of loyal customers. Analysis of differences among different groups of respondents based on the Pearson Chi-Square test showed that there are significant differences in the frequency of purchase in Internet pharmacies among clients of different gender, age, education and health. Significant differences were found only in the frequency of purchasing in online pharmacies with clients professing a healthy lifestyle. These clients do the shopping in the internet pharmacies more often, once and more times a month. The group purchasing once in three months represents the clients buying OTC medicines and dietary supplements in an economic package when the size of the drug package is intended for consumption within 3 months.

The research also aimed to determine what reasons make the clients buy from online pharmacies (see Figure 3).

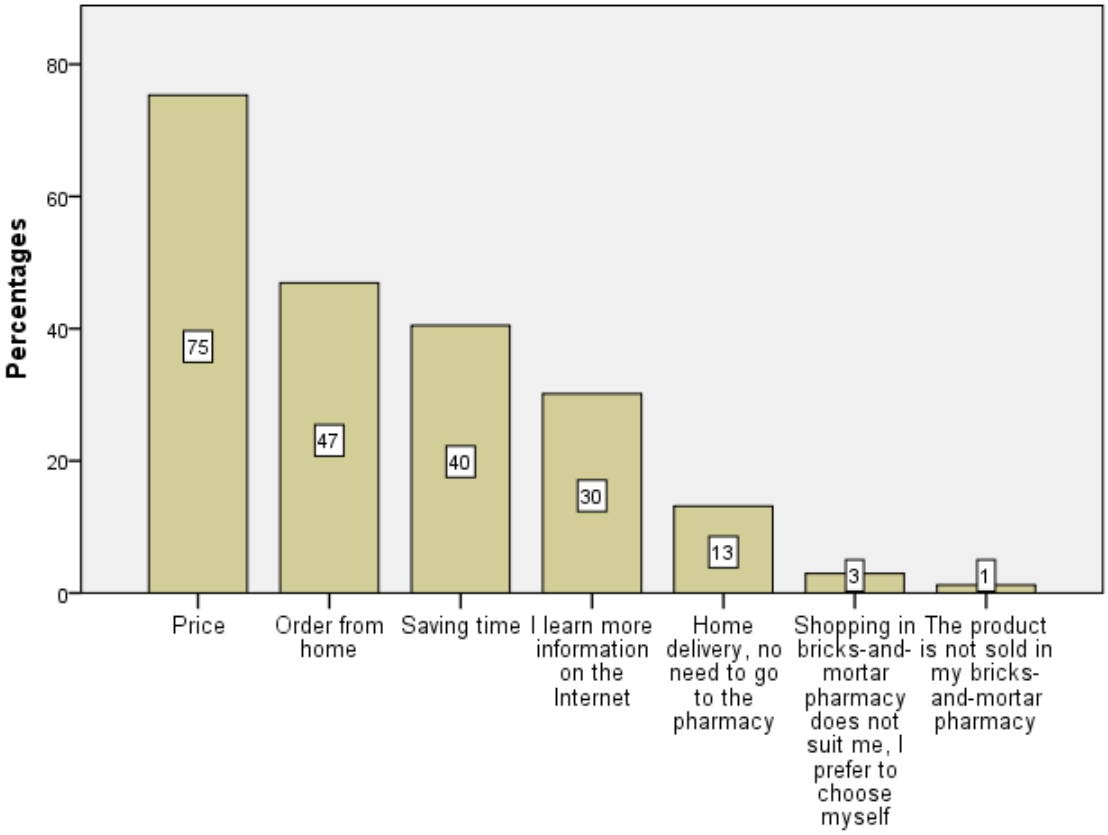

Figure 3. Preference for reasons for shopping in online pharmacies

It turned out that the main reason for purchasing in online pharmacies is a lower price (for three quarters of the clients). The customers also purchase in online pharmacies because they can make orders from home (almost 50 percent of the clients), thereby saving time (as the reason for purchasing in online pharmacies reported by 40 percent of clients). 30 percent of the clients see the benefits of buying in online pharmacies in the fact that they learn more information on the Internet. As shown in the Pearson Chi-Square test, the benefits of the chance to get more information, shopping directly from home while saving time, were more beneficial for the clients with higher post-secondary and university education than for the clients with lower education. In terms of gender, age, health status and attitudes towards a healthy lifestyle, no significant differences were determined among the clients of online pharmacies in assessing the reasons for purchasing in online pharmacies. Pairwise correlation analysis of reasons for each purchase in online pharmacies using Pearson correlation coefficient (see Table 1) shows that there are quite apparent strong correlations between the order from home, saving time and opportunity to find more information on the Internet and make own choice. These reasons are not correlated with the "price" reason for buying in online pharmacies. This means that respondents who buy because of creature comforts of their home, saving time and opportunities to find more information

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and to choose for themselves less intensively consider the low price as the reason for purchasing in online pharmacies. Both the groups represent a different market segment.

Table 1. Pearson Correlation of reasons for shopping in online pharmacies

	Price	Home delivery, no need to go to the pharmacy	I learn more information on the Internet	Shopping in bricks-and-mortar pharmacy does not suit me, I prefer to choose myself	Order from home	The product is not sold in my bricks-and-mortar pharmacy
Price	1	-,090*	-,091*	-,084*	-,054	-,165**
Home delivery, no need to go to the pharmacy	-,090*	1	,056	,073*	,199**	-,043
I learn more information on the Internet	-,091*	,056	1	,110**	,073*	-,019
Shopping in bricks-and-mortar pharmacy does not suit me, I prefer to choose myself	-,084*	,073*	,110**	1	,011	-,019
Order from home	-,054	,199**	,073*	,011	1	-,055
Saving time	-,029	,164**	,029	,066	,237**	-,091*
The product is not sold in my bricks-and-mortar pharmacy	-,165**	-,043	-,019	-,019	-,055	1

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

Procedure for shopping in online pharmacy

Analysis of secondary data sources (Google Analytics visitor statistics) led to the knowledge that most clients use Internet Explorer to search for online pharmacies, 48 percent of the clients, more than 33 percent of the clients use Firefox browser while other browsers are chosen by the clients to access the Internet less frequently (see Figure 4). To complement the results, all browsers are shown in the graph with the use of Google Analytics (see Figure X).

Web Browser None Visits Visits Contribution of the Browser Item to the Overall Result

	Prohlížeč Žádné	Návštěvy	Návštěvy
1.	Internet Explorer	76 171	48,00 %
2.	Firefox	52 720	33,22 %
3.	Chrome	18 298	11,53 %
4.	Opera	7 828	4,93 %
5.	Safari	2 714	1,71 %
6.	Android Browser	338	0,21 %
7.	Mozilla Compatible Agent	169	0,11 %
8.	Opera Mini	158	0,10 %
9.	SeaMonkey	95	0,06 %
10.	Mozilla	62	0,04 %

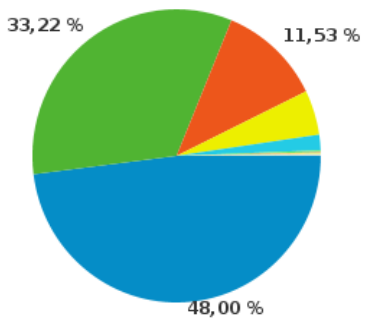

Figure 4. Distribution of visitors to the online pharmacy using browsers for one year (1.1.2011-1.1.2012)
Source: Google Analytics

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As the next step, the respondents most often search for an e-shop using search engines, nearly 70 percent of the clients. Nearly 22 percent of the clients use access from linked sites and various price comparing sites and only about 5 percent of the clients type the direct address of an online pharmacy in the address bar of the browser (see Figure 5).

Figure 5. Distribution of visitors to the online pharmacy for a period of one year (1.1.2011-1.1.2012) - Direct visitors/ Linked sites /Browsers
Source: Google Analytics

The primary quantitative research among the clients of online pharmacies showed significant differences in the process of finding an e-shop among the generation younger than 35 years and older clients. Direct access to websites is used more often by respondents aged 51 years and older. The younger the clients are, the more they use price comparing sites such as zbozi.cz or heureka.cz, etc. or search an e-shop using search engines, in most cases with Google and Seznam. A subsequent analysis of the rates of using search engines showed that the most-often-used search engine is Seznam (52 percent of the clients), then Google search engine (44 percent of the clients), and only about 4 percent of the respondents use a different search engine (see Figure 6).

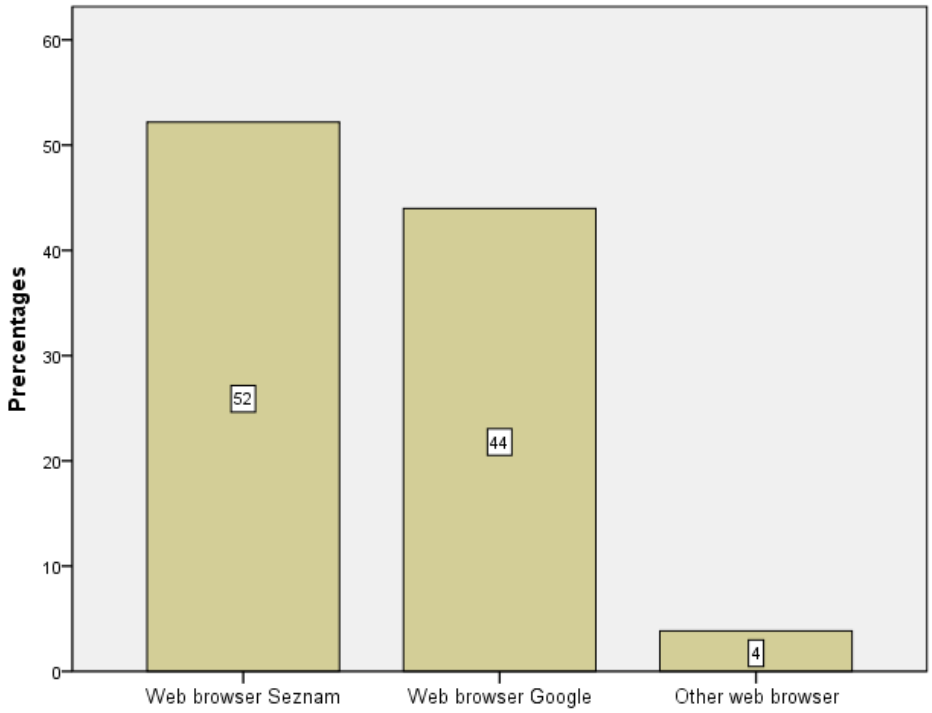

Figure 6. Rates of using various search engines in purchasing over the Internet

The Crosstabs analysis revealed significant differences in the use of individual search engines, as more women prefer the Seznam search engine than men, there are also differences in the choice of search engines in terms of the level of education achieved as the use of the Google search engine increases with increasing level of education at the expense of the Seznam search engine.

Researched were also the steps the customers take when choosing an online pharmacy in repeat purchase of medicines and food supplements over the Internet. It was found that in repeat purchase the customers substantially take into account, when choosing an Internet pharmacy, their own experience and do not choose

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only according to the first advantageous offer. As shown in Figure 7, almost 30 percent of the clients purchase directly with a tried-and-tested online pharmacy. Nearly 69 percent of the clients surveyed use an online pharmacy they have already tried and tested, however most of them compare the price and terms with other offers by other online pharmacies. The Crosstab analysis revealed that the percentage of people who repeatedly use a tried-and-tested online pharmacy increases with increasing age, so older people are more faithful to their tried-and-tested pharmacy. Only less than 1.5 percent of the clients take their friends' advice when choosing an online pharmacy or choose a dietary supplement or OTC drug right in the first generated offers (less than 1 percent of online pharmacy clients).

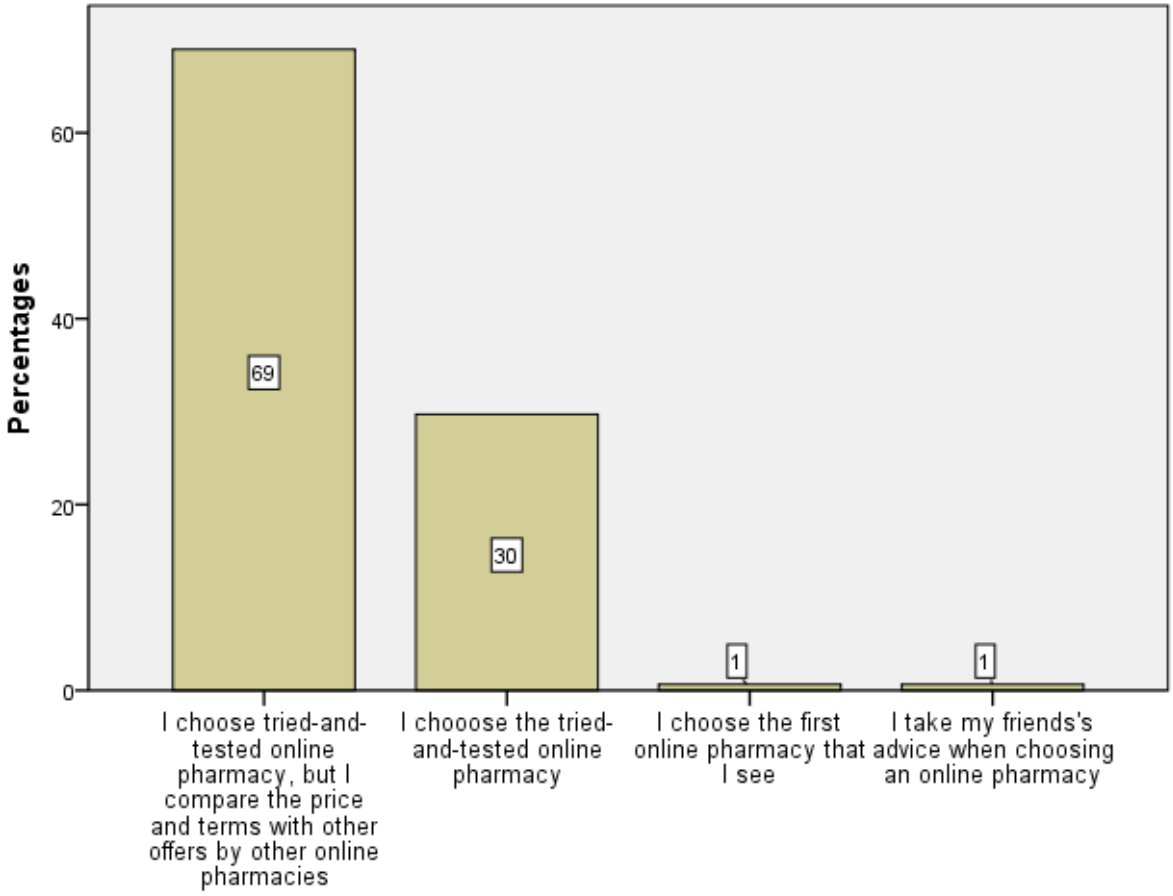

Figure 7. How do the clients choose an online pharmacy in repeat purchase

The research also focused on how online pharmacy clients choose a product on the e-shop website, what they browse through and what they browse through first and what then. As is evident from Figure 8, most clients (30 percent) first read the product description, price, and then look at the pictures of the product. Somewhat less clients (20 percent) first look at the price, the product description and then at the visual presentation. It is clear that important components of the offer of OTC medicines and nutritional supplements in the pharmacy are also online description of the product, its price and visual presentation, because clients peruse all three components of the offer.

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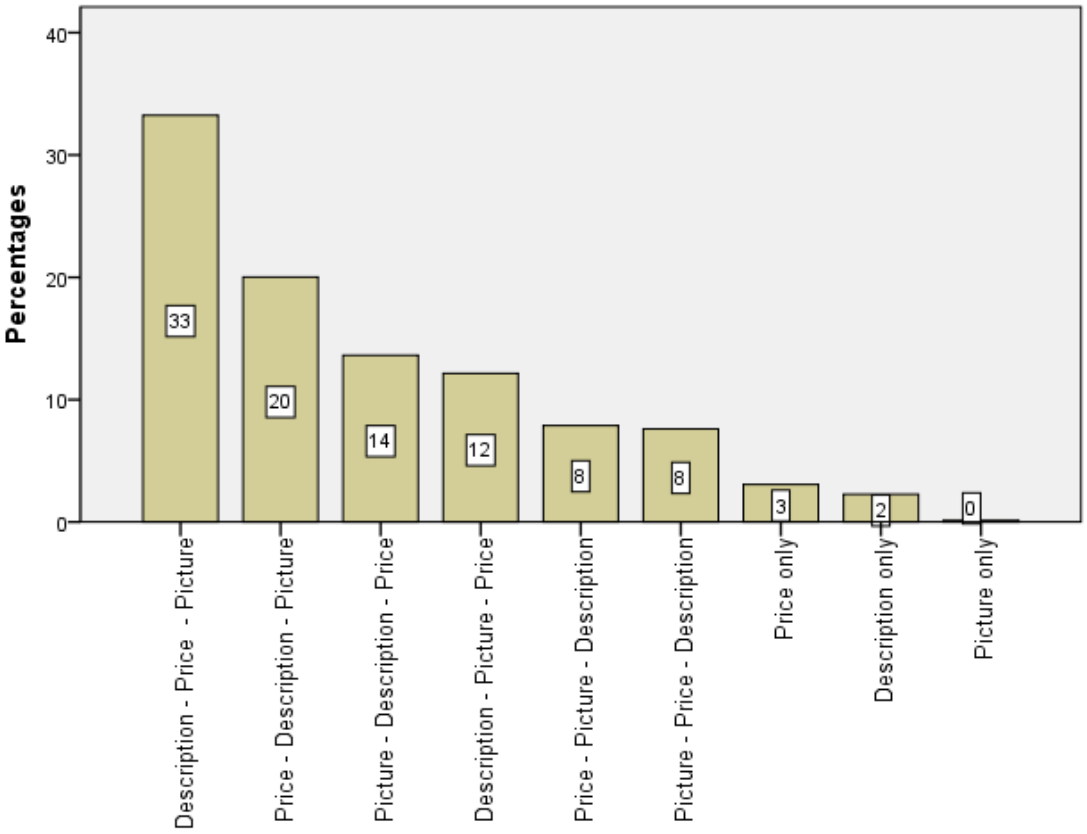

Figure 8. How the client proceeds when shopping on the online pharmacy website

Conclusions

The research showed that the clients of Internet pharmacies still do their shopping in bricks-and-mortar pharmacies more often than in online pharmacies. It is encouraging for operators of online pharmacies that with it is the opposite with younger age groups and educated population. It is expected that the percentage of customers who purchase OTC medicines and dietary supplements will grow with further Internet penetration.

The frequency of purchases in online pharmacies is smaller; mostly it is one purchase every 3 months. Those clients who profess a healthy lifestyle buy more often. It turned out that the main reason for purchasing in online pharmacies is the lower price (for three quarters of the clients). Half of the clients reported as an additional reason for shopping in online pharmacies is the fact that they can make orders from home, thereby saving time. Less than a third of clients see the benefits of buying in online pharmacies in the fact that they can learn more information on the Internet and can choose the product themselves. These reasons were more frequently reported by more educated clients of online pharmacies. It was identified that the clients buying on the Internet for low prices represent a different market segment than the clients buying there to save time, to make orders from home, get more information and choose the products themselves.

The research into the steps the clients take when searching for an e-shop and products led to the knowledge that most often the clients enter the internet through Internet Explorer and then Firefox, other browsers are used very rarely. After accessing the internet, the clients most often search for e-shops using search engines (70 percent of the clients), that is through search engines of Seznam and Google, other search engines are used very rarely. The Crosstabs analysis revealed significant differences in the use of individual search engines, as more women prefer the Seznam search engine than men, there are also differences in the choice of search engines in terms of the level of education achieved as the use of the Google search engine increases with increasing level of education at the expense of the Seznam search engine. Linked sites are used by only about one quarter of clients of online pharmacies and only about 5 percent of clients enter directly through the online pharmacy web site thanks to the knowledge of the addresses.

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Knowing how the clients move on the e-shop website is the basis for optimizing websites and their settings, so that the clients find it as user-friendly as possible right upon entering the site and moving around when getting acquainted with the offer and then purchasing.

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