

OBTAINING CONSUMER INFORMATION FOR THE PURCHASE OF OVER-THE-COUNTER MEDICINES AND FOOD SUPPLEMENTS FROM HUNGARIAN-SPEAKING ADULT CONSUMERS IN SLOVAKIA

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Abstract: *The present study focuses on the role of online (Internet) ordering, information seeking, and the importance of the information provided by health professionals connected with the purchase of over-the-counter medicines and food supplements. Our primary survey was conducted in April-May 2022 and received 216 answers from Hungarian-speaking consumers in Slovakia that could be analysed. The data collected through the questionnaire was examined using statistical analysis and calculations. The data were organised in a single Excel file to facilitate our analysis and were processed using IBM SPSS Statistics 23 software for statistical tests – descriptive statistics, cross-tabulation analysis, Khi-square tests (variables were in nominal and ordinal measurement level). Results were considered significant at a p-value<0.05 and a p-value<0.001. Results and discussion: As to obtaining information, its receiving in person at the pharmacy is essential for consumers. When buying OTC medicines and dietary supplements, personal contact with a person working in a pharmacy is important. Consumers who want to receive information about the use of OTC medicines/supplements regard it essential to receive this information in person at the pharmacy. However, consumers who desire to purchase over-the-counter medicine/dietary supplements outside the pharmacy do not consider it important to obtain this information in person at the pharmacy. There is no association between monthly net income and highest educational attainment and the use of over-the-counter medicine based on information obtained from an advertising campaign. The results show no relationship between the education, income, age group of Hungarian-speaking consumers in Slovakia and the use of OTC medicines based on information from advertising campaigns. Only one relationship was found between the age group of the Hungarian-speaking Slovakian consumer and the use of non-prescription medicines based on information from advertising campaigns. Conclusions: The results pointed out that although online OTC medicine purchases have gained ground, personal professional advice is important for the group of customers who buy products in person at the pharmacy. It is advisable for companies producing OTC preparations to focus both on consumers who prefer online ordering and those who prefer personal shopping. What is much more important is that the pharmacy staff is still an essential source of information, and they also help with self-diagnosis. From the sales perspective, it is important to maintain online trade as consumers demand it.*

Keywords: consumer, marketing, obtaining information, OTC medicine, Slovakia.

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Introduction. During the intensive period of COVID-19 and afterwards, we could see an increase in consumer purchases of over-the-counter (OTC) products in the pharmaceutical market, typically in the form of online orders in Slovakia. The pandemic was a challenge for the pharmaceutical industry and health professionals. The question could be: what was consumers' attitude in the first half of 2022 toward purchasing OTC medicines and/or dietary supplements? We tried to find answers in Slovakia – among Hungarian-speaking adult residents of the country. The present study focuses on the role of online (Internet) ordering, information seeking, and the importance of the information provided by health professionals – e.g., pharmacists.

In our study, we tried to find answers to the following main questions: What are the primary purchasing considerations for consumers when buying OTC products online and in person? Is it important for consumers to receive information when buying over-the-counter medicines/dietary supplements? Is it important to know whether consumers obtain information in person or online when purchasing a non-prescription medicine/dietary supplement, and is this influenced by demographic characteristics?

From a marketing perspective, the consumer habits of Hungarian-speaking residents in Slovakia, their information seeking, and OTC purchases are less researched. Therefore, we focused on this group of consumers to get a picture of a specific target group.

Literature Review. OTC medicines are available to the general public without a prescription. In many European countries they are available only in pharmacies (Kennedy, 1996; Erzsébet et al., 2020) and are used for short-term treatment. The specific distribution chain of prescription medicines is due to the unique nature of pharmaceutical products; the philosophy behind prescribing is that consumers are not educated enough to make their own decisions but should be prescribed by a health professional trained in risk-benefit assessment (Glover-Thomas et al., 2010). It is important that consumers are aware when it comes to health. This should be linked to healthy behaviours such as healthy eating, exercise, and prevention. Health awareness promotes preventive healthcare and consumer purchasing behaviour (Cvirik, 2021). This brings us to the issue of buying medicines.

Prescription and over-the-counter medicines are dispensed only by pharmacies in the Slovak Republic. Additional goods (such as herbal preparations or cosmetic products) can be purchased in other markets (hypermarkets, or supermarkets). This may explain why the main reason for visiting pharmacies is to buy Rx (prescribed) or OTC medicines (Minarikova et al., 2015). Selling medicines outside pharmacies allows price reductions and greater availability (longer selling time), but this cannot compensate for the services provided by pharmacies – safe drug administration, professional information, and better medicine supply (Strapkova, 2007). In Slovakia, the sale of OTC medicines over the Internet has been allowed since 2009, but only to pharmacies, which also serve as a point of dispensing for products ordered by consumers, and with the possibility of home delivery services (Szalayova et al., 2014). Consumption of OTC medicines has increased steadily in recent years, only to decrease in 2020 due to pandemic measures and to increase again in 2021. Citizens bought 41.0 million packets of OTC medicines from pharmacies (an increase of 11.0 % compared to the previous year) and paid out €233.6 million in total (an increase of 20.0%). In addition, public pharmacies sold 275.0 thousand packets of dietary supplements to citizens without a prescription (2.8 % increase), for which they reimbursed €2.7 million (0.3% increase) (NCZI, 2022). In Slovakia, the OECD report shows a 7.7% out-of-pocket contribution for medicines, compared to the EU average of 3.7 %. Here, the public (publicly funded) contribution is 68 % for medicines (OECD, 2022). For households, health awareness is a key factor in preventing any epidemic. There is a need to increase general vigilance on health status, self-awareness, health promotion (Cvirik, 2020), and this has implications for the purchase and receipt of OTC products. There has been no exact cure or drug for the treatment or prevention of COVID-19 infection, and this has increased the influence of social media regarding misinformation about the drugs. This led to patient confusion and increased use of self-medication, making safety and efficacy key factors (Malik et al., 2020). Consumers often have limited knowledge about the properties of over-the-counter medicines and their appropriate use. Patients are not aware of the harmful risks of prolonged use of over-the-counter medicines with other medicines and products (Hakonsen et al., 2016). Self-medication is a severe risk due to drug interactions, misdiagnosis or incorrect dosage of medicines, or even prolonged use of some medicines for too long. There is also a risk of inappropriate drug selection and dangerous side effects (Stasa et al., 2022).

Five steps of the process of consumer buying decision are the following:

1. Problem recognition: when the customer recognizes some need to buy a product (Kevrekidis et al., 2021; Furajji et al., 2012).
2. Information search: when perceiving a problem or need that can be satisfied by purchasing a product or service, the consumer is beginning to collect information to make a purchasing decision (Temechewu et

al., 2020). Information can be obtained from various sources: public, commercial, personal (Furaiji et al., 2012), and experiential (Kevrekidis et al., 2021). A different categorization of the resources could be: internal resources, group resources, marketing resources, public resources, and experimental resources (Nasidi, 2016).

3. Evaluation of alternatives: the question is which product fulfils the needs.

4. Purchase decision: where and when to buy the product, what payment method, warranties (Nasidi, 2016), and the purchase is made.

5. Post-purchase evaluation or behaviour: the feeling in the consumer after the use of the bought product (Kevrekidis et al., 2021; Furaiji et al., 2012). When buying OTC medicines, customers make their purchasing decisions based on the information available to them, using their acquired knowledge (Lanyi, 2018).

Before buying over-the-counter medicines, consumers identify the symptoms of the condition, then find the correct information on the indications for the medicine and search out and evaluate alternatives to the medicines on the market. This is followed by a decision on the appropriate medicine (Temechewu et al., 2020). Price and brand information represent important extrinsic factors that determine purchase decisions through a variety of direct and indirect influences, such as brand, brand trust, perceived quality, risk and value (Bicen, 2014). Gathering information is a process whereby the consumer scans the environment for the right information to choose (Kevrekidis et al., 2021).

Two critical factors influence the purchase decision: medical or pharmaceutical advice and the perceived value of the information (Cirstea et al., 2017). Patients from Slovakia often get information about OTC medicines from doctors and pharmacists. They use information from advertising to a lesser extent. The least used source of information is leaflets in pharmacies. According to patients, the most reliable information on OTC medicines is provided by doctors. Slovaks most often ask their doctor for advice on medicines for pain, fever, colds, and coughs and information on taking vitamins and minerals (Strapkova, 2007).

The consumer, before deciding to buy a particular brand of OTC medicine, goes through several stages, such as introducing the symptom of the disease or illness, and afterwards finding the right information about the indications of the medicine, evaluating the alternatives of the medicines on the market, and finally deciding on the right product for him/her to use. When consumers are looking for information about a medicine, some are interested to learn more about it, but other consumers' involvement is related to when personal involvement may appear (Temechewu et al., 2020). Therefore, it is up to consumers to make judgments based on the information they obtain and the experience they have gained from using medicines (Lanyi, 2018).

The information is easily accessible and patients visiting community pharmacies want to know more, demand more, and have their preferences (Burghle et al., 2020). The population should understand the place of self-medication and the use of over-the-counter medicines as an effective and safe treatment modality in a global therapeutic strategy, which requires patient education in this area. Health professionals – doctors and pharmacists in particular – have a significant role to play here, as they can significantly influence and ensure the rational use of OTC medicines by providing comprehensive information based on the latest scientific knowledge (Strapkova, 2007). Marketing for over-the-counter medicines is often a key factor in a patient's choice of medicine, but if the advertisements convey incorrect information, patients may be misinformed (Stasa et al., 2022). Finding information online can potentially benefit and help consumers (patients) to be more involved in maintaining their health and making health decisions. However, the quality, accuracy, and usability of information on the Internet vary (Burghle et al., 2020). The product should be a brand. The personal sale of over-the-counter medicines is promoted exclusively through pharmacist advice instead of the marketing of prescription medicines. Companies must engage with their consumers through various platforms, such as social media, internal communication, or CSR activities (Memisoglu, 2020). Studies say that advertising provides the least reliable information about OTC medicines, although advertising in the mass media, for example, can significantly influence sales. However, advertising can also have negative consequences – choosing an inappropriate or unnecessarily expensive medicine (Strapkova, 2007). Patients need guidance from health professionals to identify reliable information (Lombardo et al., 2016). Advertising for over-the-counter medicines shows the following numbers. 23% of respondents in Slovakia would ban such advertising completely (26% of women, 20% of men; 44% of primary school graduates, 19% of secondary school graduates, and 25% of tertiary school graduates). 47% do not mind such advertising but think it should be regulated (20% of primary school graduates, 50% of those with intermediate education and 49% of those with tertiary education). 22% support such advertising without any restrictions (17% of women, 28% of men; 35% of those with general education, 11% of those with intermediate education and 22% of those with tertiary education) (Jantova et al., 2020). In Lanyi's (2018) research, the most common source of information for Hungarian consumers was the pharmacist, followed by television advertisements, with the third most common source being a friend (family member, friend) and the fourth most common source being a doctor. Fogarasi

et al. (2020) found that the most frequent answers (1) dispensing medicines; (2) pharmacist advice; (3) preparing medicines; (4) treating colds; (5) dispensing over-the-counter medicines were the top five answers for consulting a pharmacist.

Factors influencing consumer purchasing decisions of OTC medicines:

1. pharmacist's recommendation;
2. recommendation of a family member and friends;
3. country of origin;
4. previous personal experience;
5. price (Temechewu et al., 2020).

As to the purchase of over-the-counter medicines by customers in Slovakia, pharmacists and pharmacy assistants in pharmacies said that the advice of the pharmacist or pharmacy assistant is the most significant factor which influences patients' choice of medicine in the pharmacy. The second most common influencing factor is TV/print/Internet advertising, followed by the advice of the doctor/nurse and then previous patient experience (Masarykova et al, 2021). In the healthcare market, speed is a clear feature that is important to consumers (they expect almost instant availability for their money) (Szigeti, 2023).

Patients as consumers are of the following opinion: when buying medicines without a prescription, the advice of the pharmacist/pharmacy assistant is the primary influence on the choice of the form of medicine. The second most common influence is the patient's previous experience, followed by the advice of the doctor/nurse. Finally, the fourth most crucial factor is the price of the product, followed by the recommendation of a friend/family member (Masarykova et al, 2021).

Methodology and Research Methods. Our primary survey was conducted in April-May 2022 using a digital online questionnaire with a non-probability sampling method (snowball sampling). This publication presents the results of part of the questionnaire. We wanted to obtain relevant results on the consumption habits, information acquisition and OTC medicines purchase of Hungarian-speaking residents in Slovakia. Therefore, the sample is not representative, but trends can be identified by examining the results. A total of 523 valid responses were received, of which 216 met the exclusion criteria: age 18; knowledge of the Hungarian language; residing in Slovakia; responses that could be evaluated when completing the questionnaire. At the beginning of the questionnaire, respondents answered general demographic questions, followed by questions on the marketing of OTC medicines/supplements, then a series of questions on purchasing behaviour, and finally questions on «Information on OTC medicines/supplements and their purchase». We used closed, semi-closed, and Likert scale questions (ranging from 1 to 5). Digital data were processed, organised, and cleaned by Microsoft Excel software and analysed using IBM SPSS Statistics software. The results were considered to be significant at a p-value<0.05 and a p-value<0.001.

We propose the following research questions and hypotheses:

- RQ1: What are the main purchasing considerations for consumers when buying over-the-counter (OTC) products online and in person?
 - H1: Consumers who consider it important to receive information on the use of over-the-counter medicines/dietary supplements consider it important to receive this information in person at the pharmacy.
- RQ2: Is it important for consumers to receive information when buying over-the-counter medicines/dietary supplements?
 - H2: There is an inverse relationship between the importance scores of respondents who prefer to buy over-the-counter and the importance scores of getting information about the use of over-the-counter medicines/dietary supplements in person at the pharmacy (i.e., consumers who consider it more important to buy over-the-counter are less likely to regard it important to get information about the use of over-the-counter medicines/prescription supplements in person).
- RQ3: Is it important to know as a marketer whether consumers obtain information in person or online when purchasing a non-prescription medicine/dietary supplement and is this influenced by demographic characteristics?
 - H3: There is a relationship between the education, income, and age group of the Hungarian-speaking consumers in Slovakia and the claims based on information obtained from an advertising campaign about the use of over-the-counter medicines.

The distribution of the sample (N=216) is summarised in Table 1. As demographic data, we asked for gender of the respondent, age group, net monthly income level, place of residence and the highest educational qualification thus ensuring the total anonymity of the respondents. 21.3 % of male and 78.7 % of female respondents filled out our questionnaire. The distribution by age was as follows: 10.2 % of respondents aged

between 18-20 years 0%, 34.3% aged 21-29 years, 27.3% of respondents aged 30-39, 18.5% aged 40-49, 16.2% aged 50-59, 3.7% of respondents aged 60-69 years. The majority has college or university degree (62.5%), the second biggest group was secondary school (22.2%) followed by high school (10.2%) and vocational education (5.1%). Respondents' individual net monthly income can be characterised as follows: 8.3% had no independent monthly income at the time of filling in the questionnaire, while the majority of respondents (31.5%) had monthly income between 701 – 1000 euros. We also wanted to know if the respondents were familiar with the concept of over-the-counter medicines and the results show that they are, with 97.7% of the respondents answering «Yes».

Table 1. The Structure of the Sample Distribution, N=216

	Factors	Frequency	
		n	%
Gender	Male	46	21.3 %
	Female	170	78.7 %
Age group	21-29 years old	74	34.3 %
	30-39 years old	59	27.3 %
	40-49 years old	40	18.5 %
	50-59 years old	35	16.2 %
	60-69 years old	8	3.7 %
	College or university degree	135	62.5 %
Highest level of education	High school	22	10.2 %
	Secondary school	48	22.2 %
	Vocational education	11	5.1 %
Family status	Divorced/Widowed	17	7.9 %
	Single	50	23.1 %
	Married	95	44.0 %
	In a relationship	54	25.0 %
Place of residence	25 km radius of the capital	9	4.2 %
	Village	96	44.4 %
	Capital	24	11.1 %
	Small town	71	32.9 %
	Large town	16	7.4 %
Net monthly income	I have no independent monthly income	18	8.3 %
	less than 400 €	14	6.5 %
	401 € - 700 €	50	23.1 %
	701 € - 1000 €	68	31.5 %
	1001 € - 1300 €	34	15.7 %
	1301 € - 1600 €	14	6.5 %
Are you familiar with the concept of over-the-counter medicines?	over than 1601 €	18	8.3 %
	Yes	211	97.7 %
	No	5	2.3 %

Sources: developed by the authors.

Results. Results related to the purchase. RQ1: What are the main purchasing considerations for consumers when buying over-the-counter (OTC) products online and in person?

For our Likert scale questions, we used a scale from 1 to 5 (1=Not at all important, 5=Very important). Frequency analysis was used to process the responses statistically. The obtained median values of the responses were 3 and 4, and the calculated mean values (see Table 2) indicate that it is moderately to less important for respondents to (1) buy over-the-counter medicines/medical supplements outside pharmacies (mean 2.86); (2) order them online (mean 2.93).

RQ2: Is it important for consumers to receive information when buying over-the-counter medicines/dietary supplements?

In terms of obtaining information, (3) the importance of receiving information in person at the pharmacy (mean 4.11) is important; (4) the importance of self-diagnosis before choosing a non-prescription medicine/supplement (mean 3.70) is from medium to more important; while (5) the importance of having a health professional to help with self-diagnosis before choosing a non-prescription medicine/dietary supplement (mean 3.92) is more important. From the obtained results, we conclude that when buying OTC medicines and dietary supplements, personal contact with a person working in a pharmacy is essential, as it is

from them that consumers can obtain information. The importance of self-diagnosis before purchasing a product is medium, so respondents do not consider this as a top priority, but it is certainly useful to have a diagnosis to choose a product.

Table 2. Importance of aspects of buying an OTC medicine/dietary supplement product (N=216)

	Out-of-pharmacy purchases	Order online	Get information in person at a pharmacy	Carry out a self-diagnosis before choosing a product	A person with a medical qualification should assist in carrying out a self-diagnosis before choosing a product
Mean	2.86	2.93	4.11	3.70	3.92
Median	3	3	4	4	4
Std. deviation	1.41	1.39	1.07	1.15	1.11
Skewness	0.05	0.05	-1.03	-0.60	-0.81
Kurtosis	-1.18	-1.18	0.311	-0.27	0.05

Sources: developed by the authors.

We also used Likert scale (1-5) questions to examine the importance of the five satisfaction measures listed when purchasing over-the-counter medicines/prescription supplements from pharmacies (see Table 3). Frequency analysis was used to process the responses statistically. The calculated mean scores are all above four and the median scores are 4 and 5, respectively, indicating that each satisfaction measurement type is crucial to respondents. Most importantly

- the medicine purchased is effective (mean 4.74);
- the medicine does not cause unpleasant side effects (mean 4.61);
- the medicine is accompanied by adequate and comprehensive patient information and education (mean 4.40);
- the medicine is promptly given to the patient (mean 4.25);
- the pharmacy staff helps the patient to self-diagnose (mean 4.06).

Table 3. Purchases of OTC medicines from pharmacies and the importance of certain types of satisfaction measures (N=216)

	Receive the medicine I want immediately	The medicine should be effective	Receive adequate and comprehensive information and education about the medicine	The medicine should not cause unpleasant side effects	The pharmacist should assist in carrying out a self-diagnosis
Mean	4.25	4.74	4.40	4.61	4.06
Median	4	5	5	5	4
Std. deviation	0.74	0.58	0.72	0.67	0.97
Skewness	-0.91	-2.56	-1.00	-1.85	-1.09
Kurtosis	1.30	7.16	0.45	3.38	1.17

Sources: developed by the authors.

Results related to information gathering. Based on the answers and results to the questions described above, we also examined the relationship between three characteristics related to information gathering using a cross-tabulation analysis, summarised in Table 4. Statistical tests were carried out during our analysis. In cross-tabulation analysis, both variables under study were ordinal in measurement level, so we examined the value of the Gamma indicator and the Spearman correlation.

H1: Consumers who consider it important to receive information on the use of over-the-counter medicines/dietary supplements regard it important to receive this information in person at the pharmacy.

Our first analysis: as dependent variables, we examined the importance of obtaining information on the use of OTC medicines/dietary supplements in person at the pharmacy, and as independent variables, we examined the importance scores noted by respondents for obtaining information on the use of OTC

medicines/dietary supplements in person at the pharmacy. The results of the cross-tabulation analysis indicate a significant medium positive relationship ($p=0.000$, where $p<0.001$; $\text{Gamma}=0.466$; Spearman correlation coefficient= 0.374).

We conclude that the alternative hypothesis H1 can be confirmed, as consumers who consider it important to receive information about the use of OTC medicines/supplements regard it important to receive this information in person at the pharmacy.

H2: There is an inverse relationship between the importance scores of respondents who prefer to buy over-the-counter and the importance scores of getting information about the use of over-the-counter medicines/dietary supplements in person at the pharmacy (i.e., consumers who consider it more important to buy over-the-counter are less likely to regard it important to get information about the use of over-the-counter medicines/prescription supplements in person).

In our cross-tabulation analysis number two, we examined the importance of purchasing OTC medicines/prescription supplements outside the pharmacy as the dependent variable and the importance scores noted by respondents for obtaining personal information about OTC medicines/prescription supplements at the pharmacy as the independent variable. Our result shows a significant weak relationship with a negative direction ($p=0.008$, where $p<0.05$; $\text{Gamma} = -0.215$; Spearman correlation coefficient = -0.179). Thus, an inverse relationship exists, i.e., consumers who consider it important to purchase over-the-counter medicine/dietary supplements outside the pharmacy do not regard it essential to obtain this information in person at the pharmacy.

In our third cross-tabulation analysis, we examined the importance of purchasing over-the-counter medicines/dietary supplements online as a dependent variable and the importance scores noted by respondents for obtaining personal information about the use of over-the-counter medicines/dietary supplements from pharmacies as an independent variable. Our results show a significant negative, weak relationship ($p=0.014$, where $p<0.05$; $\text{Gamma} = -0.195$; Spearman correlation coefficient = -0.166). Thus, an inverse relationship exists, as consumers who consider it important to purchase over-the-counter medicines/dietary supplements online do not regard it important to obtain this information in person at the pharmacy.

The results of the second and third statistical tests confirm that it is not as important for consumers who buy over-the-counter products outside the pharmacy or online to receive information about these products in person at the pharmacy (from a health professional).

We conclude that the alternative hypothesis H2 can be confirmed based on the statistical results. There is an inverse relationship between the importance scores of respondents who prefer to buy over-the-counter and the importance scores of getting information about using over-the-counter medicines/supplements in person at the pharmacy.

Table 4. The importance of obtaining information when buying an OTC medicine/dietary supplement

Importance of receiving information about the OTC medicine/dietary supplement * Importance of receiving information in person at a pharmacy (Ordinal by Ordinal)	N=216	Value	Asymptotic	Asymptotic	
			Standardised Error	Significance (2-sided)	
	Gamma	0.466	0.075	0.000	
		Spearman Correlation	0.374	0.065	0.000
Importance of shopping OTC medicine/dietary supplement outside a pharmacy * Importance of receiving information in person at a pharmacy (Ordinal by Ordinal)	N=216	Value	Asymptotic Standardised Error	Asymptotic Significance (2-sided)	
		Gamma	-0.215	0.080	0.008
	Spearman Correlation	-0.179	0.068	0.009	
		Value	Asymptotic Standardised Error	Asymptotic Significance (2-sided)	
Importance of ordering OTC medicines/dietary supplements online * Importance of receiving information on the use of OTC medicines/dietary supplements in person at a pharmacy (Ordinal by Ordinal)	N=216	Gamma	-0.195	0.078	0.014
		Spearman Correlation	-0.166	0.068	0.014

Sources: developed by the authors.

We also looked at three key demographic characteristics (age group, income group – based on net monthly income, education level) to see if respondents would be willing to use an over-the-counter medicine based on

information from an advertising campaign alone (Yes/No response options). For the age groups, we grouped respondents into five categories based on the available responses: 1=21-29 years old; 2=30-39 years old; 3=40-49 years old; 4=50-59 years old; 5=over 60 years old. For the monthly net income groups, we classified respondents into seven categories based on the available responses: 1=no independent monthly income; 2=less than 400€; 3=401-700€; 4=701-1000€; 5=1001-1300€; 6=1301-1600€; 7=over 1600€. Finally, for the highest level of education, respondents were classified into four categories based on the available answers: 1=Vocational education; 2=Secondary school; 3=High school; 4=College or university degree.

RQ3: Is it important to know as a marketer whether consumers obtain information in person or online when purchasing a non-prescription medicine/dietary supplement, and is this influenced by demographic characteristics?

H3: There is a relationship between the education, income, and age group of the Hungarian-speaking consumer in Slovakia and the claims based on information obtained from an advertising campaign about the use of over-the-counter medicines.

In our cross-tabulation analyses, the variables of interest are at nominal measurement levels, so we performed Pearson's Chi-square test and examined the Cramer V value and the contingency coefficient (see Table 5).

When examining age group (independent variable) and use of over-the-counter medicine based on information obtained from an advertising campaign (dependent variable), we see a significant weak relationship with a positive direction ($p=0.048$, where $p<0.05$; $r=0.211$; Cramer V=0.211; contingency coefficient value 0.206; $df=4$). The results show that the younger the consumer, the more willing he/she is to use over-the-counter medicine based on information obtained from an advertising campaign only.

When looking at monthly net income groups as independent variables, our statistical test shows no significant relationship, as $p=0.331$, where $p>0.05$; $r=0.179$; Cramer V=0.179; contingency coefficient value 0.176; $df=6$.

When examining education as an independent variable, our statistical test also shows no significant relationship, as $p=0.058$, where $p>0.05$; $r=0.186$; Cramer V=0.186; contingency coefficient value 0.183; $df=3$.

Thus, we conclude that there is no association between monthly net income and highest educational attainment and the use of over-the-counter medicine based on information obtained from an advertising campaign.

The results of our hypothesis H3 test suggest no relationship between the education, income, and age group of Hungarian-speaking consumers in Slovakia and the use of over-the-counter medicines based on information from advertising campaigns. Therefore, only one relationship was found for the present hypothesis: there is a relationship between the age group of the Hungarian-speaking Slovakian consumer and the use of non-prescription medicines based on information from advertising campaigns, which is supported by the statistical tests described above and the results summarised in Table 5.

Table 5. Use of OTC medicine based on information from an advertising campaign

	N=216	Value	df	Asymptotic Significance
Age group * Would you be willing to use an over-the-counter medicine based only on information from an advertising campaign (Nominal by Nominal)	Phi	0.211	4	0.048
	Cramer's V	0.211		0.048
	Contingency Coefficient	0.206		0.048
Monthly net income group * Would you be willing to use an over-the-counter medicine based only on information from an advertising campaign (Nominal by Nominal)	Phi	0.179	6	0.331
	Cramer's V	0.179		0.331
	Contingency Coefficient	0.176		0.331
The highest level of education * Would you be willing to use an over-the-counter medicine based only on information from an advertising campaign (Nominal by Nominal)	Phi	0.186	3	0.058
	Cramer's V	0.186		0.058
	Contingency Coefficient	0.183		0.058

Sources: developed by the authors

Conclusions. Following the aim of the study, we examined the role of online (Internet) ordering, information seeking, and the importance of the information provided by health professionals – e.g., pharmacists. We found answers to the questions: What are the main purchasing considerations for consumers when buying over-the-counter (OTC) products online and in person? Is it important for consumers to receive information when buying over-the-counter medicines/dietary supplements? Is it important to know whether consumers obtain information in person or online when purchasing a non-prescription medicine/dietary supplement, and is this influenced by demographic characteristics?

The importance of receiving information in person at the pharmacy is essential (mean 4.11) for Hungarian-speaking consumers in Slovakia. We conclude that when buying OTC medicines and dietary supplements, personal contact with a person working in a pharmacy is important. Consumers who consider it important to receive information about the use of OTC medicines/supplements regard it important to receive this information in person at the pharmacy. These results are consistent with previous research results: patients from Slovakia get information about OTC medicines most often from doctors and pharmacists (Strapkova, 2007), and for Hungarian consumers, the pharmacist was the most common source of information (Lanyi, 2018). Fogarasi et al. (2020) found that pharmacist advice is the second most important source of information.

However, consumers who consider it important to purchase over-the-counter medicine/dietary supplements outside the pharmacy do not regard it important to obtain this information in person at the pharmacy. The statistical analyses prove that it is not as important for consumers who buy over-the-counter products outside the pharmacy or online to receive information about these products in person at the pharmacy (from a health professional). On the purchase of OTC medicines by consumers in Slovakia, pharmacy pharmacists and pharmacy assistants said that the pharmacist or pharmacy assistant's advice is the main factor that influences the choice of medicines by patients in the pharmacy (Masarykova et al, 2021). Factors influencing consumer purchasing decisions of OTC medicines: (1) pharmacist's recommendation, (2) recommendation of a family member and friends. (3) country of origin, (4) previous personal experience, (5) price (Temechewu et al., 2020). The importance of self-diagnosis before purchasing a product is medium, so respondents do not consider this a top priority, but it is certainly useful to have a diagnosis to choose a product. Two key factors influence the purchase decision: medical or pharmaceutical advice and the perceived value of the information (Cîrstea et al., 2017).

There is no association between monthly net income and highest educational attainment and the use of over-the-counter medicine based on information obtained from an advertising campaign. The results show no relationship between the education, income, and age group of Hungarian-speaking consumers in Slovakia and the use of OTC medicines based on information from advertising campaigns. Only one relationship was found between the age group of the Hungarian-speaking Slovakian consumer and the use of non-prescription medicines based on information from advertising campaigns.

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Отримання інформації про покупців безрецептних ліків та харчових добавок серед угорськомовних споживачів зрілого віку в Словаччині

Поточне дослідження зосереджується на ролі онлайн-замовлень, пошуку інформації та важливості медичних даних, пов'язаних з придбанням безрецептних ліків та харчових добавок. Наше первинне опитування було проведено у квітні-травні 2022 року. Ми отримали 216 відповідей від угорськомовних споживачів у Словаччині, що підлягало подальшому аналізу. Заанкетовані відомості про споживачів опрацьовувалися статистичним шляхом. Дані було організовано в одному файлі Excel-файлі для полегшення нашого аналізу. Обробка інформації здійснювалася за допомогою програмного забезпечення IBM SPSS Statistics 23 для статистичних тестів. Так, імплементувалися описова статистика, аналіз перехресних таблиць, тести з Кхі-квадратом (змінні були на номінальному та порядковому рівнях вимірювання). Результати вважалися значущими при р-значенні $<0,05$ і $<0,001$. Що стосується результатів студії, варто виокремити наступні моменти. Особисте отримання інформації про ліки в аптеці є доволі важливим для споживачів. Під час купівлі безрецептних лікарських засобів та БАДів важливий особистий контакт із працівником аптеки. Споживачі, які хочуть отримати інформацію про використання безрецептних ліків/добавок, вважають за необхідне отримати таку інформацію особисто в аптеці. Однак споживачі, які бажають придбати безрецептні ліки/біологічно активні добавки поза аптекою, не вважають за потрібне отримати таку інформацію особисто в аптеці. Щодо рекламної медичної інформації, немає зв'язку між місячним чистим доходом, найвищим освітнім рівнем і використанням безрецептних ліків. Результати студії показують відсутність зв'язку між освітою, доходом, віковою групою угорськомовних споживачів у Словаччині та використанням розрекламованих безрецептних ліків. Рекламні препарати виявили лише один зв'язок: між віковою групою угорськомовного словацького споживача та використанням безрецептних ліків. Зрештою, результати показали, що попри популярність онлайн-покупок безрецептних ліків, особиста професійна консультація важлива для групи клієнтів, які купують препарати особисто в аптеці. Компаніям, які виробляють такі ліки, доцільно орієнтуватися як на споживачів, які віддають перевагу онлайн-замовленню, так і на тих, хто віддає перевагу особистим покупкам. Важливо пам'ятати, що працівники аптеки все ще є необхідним джерелом інформації, які додатково допомагають у самодіагностиці можливих хвороб. З точки зору продажів, важливо підтримувати онлайн-торгівлю, оскільки вони користуються попитом серед споживачів.

Ключові слова: споживачі, маркетинг, отримання інформації, безрецептні ліки, Словаччина.