

# Public opinion study on the role of advertising in choice of non-prescription drugs for self-treatment

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## Abstract

An assessment of the opinion of a certain cohort of the population on the role of drug advertising in the choice of non-prescription drugs for self-treatment was conducted. According to the questionnaire survey, it has been established that advertising affects the choice of drug for self-treatment 26.0% of the polled. Despite the fact that the majority of respondents indicate that there is no influence of drug advertising, 62.8% of them buy self-medication drug about which they learned from advertising. Thus, our scientific hypothesis about the presence of the direct influence of drug advertising on the commitment of patients to pharmacotherapy is confirmed. The majority of respondents (90.0%) do not consider advertising of drugs to be effective and safe, and 61.0% say that drug advertising contains contradictory and incomprehensible information. Almost all respondents (88.0%) are convinced that drug advertising is not always objective and fair. At the same time, according to 50.0% of respondents, the volume of drug advertising in Ukraine should be reduced, 22.0% of respondents believe that advertising of drugs should be prohibited.

## Keywords

drug advertising, non-prescription drugs, self-treatment, questionnaire survey

## Introduction

According to the World Health Organization, self-treatment as the cause of death ranks 5<sup>th</sup> after cancer and infectious diseases (Movchazna 2016a). Experts from the Consumer Associations of a number of countries argue that intensive advertising prompts patients to violate doctors' prescription and choose the advertised drug. In the last 5 years, the sales of over-the-counter (OTC) drugs in Ukraine are twice as large as prescription drugs, while in the European Union countries the trend is reversed. In

particular, in the United Kingdom without a prescription, you can buy no more than 20% of the total amount of drugs. The domestic market of medicines in 2013 reached a sales volume of 30.5 billion UAH for 1.27 billion packages (Kordubaylo 2014a). The total volume of pharmacy sales of OTC drugs in 2013 amounted to 13.5 billion UAH for 814.4 thousand packets, exceeding the previous year's figure by 12.1% in monetary terms and 0.4% in physical terms. One of the main factors affecting the sale of drugs

is its promotion. According to the results of 2013 in Ukraine, the largest were investments of drug manufacturers in television advertising, they accounted for 97% of all advertising promotions, the volume of investments in pharmaceutical companies in advertising drugs was UAH 5.1 billion, exceeding the corresponding indicator of the previous year by almost half (Huseva 2014a; Dmitrik 2016a). Domestic statistics show that in the 2014–2015 period, the share of drug advertising on television has increased from 15% to 22%, and in other media – up to 25%. Analysts of the pharmaceutical market believe that advertising in the media spends 700 to 900 million UAH (Movchazna 2016b). One of the most important means of effective promotion in the pharmaceutical market is advertising (Harkavenko 2004; Hromovyk 2008; Dmitrik 2015). By legally defined ways in Ukraine actively promote various types of medicinal products, including non-prescription drugs (Huseva 2014b). Advertising has always been one of the important mechanisms of exposure to the patient, which is why the issue of its safety and ethics is considered quite meticulously. Its placement also plays a significant role: advertising of drugs in specialized medical journals is critically evaluated and ranked by professional readers of these publications. Advertising of drugs on television has led to the spread of a negative phenomenon, as irresponsible self-treatment (Huseva 2014c; Nosenko 2015a; Zaremba et al. 2015, Ryvak et al. 2017). Thus, the pharmaceutical market subjects for the marketing of OTC drugs should adhere to socially responsible principles that provide patients with objective and reliable information about all possible negative consequences of irresponsible self-treatment.

Formation of a responsible attitude of the individual towards health as a necessary condition for achieving physical, psychological and social well-being of people and prosperity and stability of the country is one of the strategic tasks of our state. The National Doctrine of the Development of Education in Ukraine in the 21<sup>st</sup> Century, the Concept for the Formation of a Positive Motivation on a Healthy Way of the Population and the State Standard of Education determine the issue of «teaching a person to responsible attitude towards their own health and health of others as the highest social and individual values» (Cherevko 2013). At the same time, incorrect use of drugs, in particular, OTC, is associated with significant risks to health, and sometimes human life. These risks are greatly increased if patients under the influence of «aggressive» advertising resort to self-treatment (Zupanets 2003). The existing mechanism of legal regulation of drug advertising needs improvement. The restriction of advertising of OTC drugs, reviewing its objectivity and conscientiousness is a significant step towards solving the problem of irresponsible self-treatment and self-prescribing drugs.

In Ukraine, the study of the causes and effects of the drug advertising on the attitude of the population towards their own health remains one of the most pressing problems of modern medical (pharmaceutical) assistance, whose practical significance is extremely important.

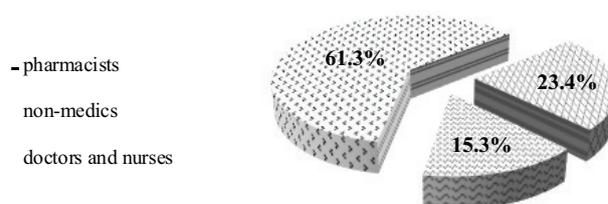
## Materials and methods

In our study a questionnaire survey of 137 respondents of different age groups and areas of activity under a single specially designed protocol was included, taking into account the issues related to drug advertising. Period of study: October–December 2016. A standardized survey algorithm had been used, which allowed achieving equality of research conditions within the group. The questionnaire worked out by us consisted of 17 questions, ranked according to their purpose: background informational (sources of information about medicine, the purpose of their application, etc.) and behavioral-motivational (to determine the attitude and necessity of making changes in advertising of medications in mass-media, etc.). In order to process and analyze the obtained data, the primary amount of information was transformed into an electronic table format by means of Excel 2010. In the course of the research, such methods were used: system approach, standardization, anonymous questionnaire survey according to a single protocol, statistical, computer processing of data.

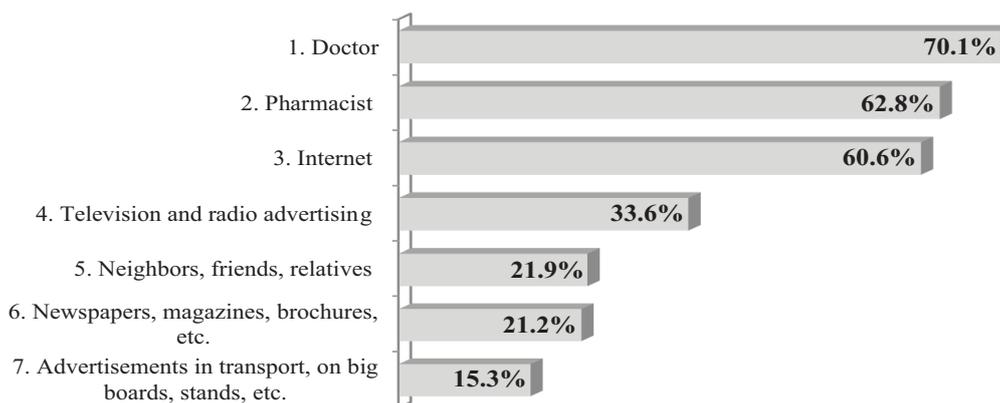
## Results

The purpose of our research was to study and evaluate the opinion of a certain cohort of the population of Lviv and Lviv region (n=137) regarding the role of drug advertising in the choice of non-prescription drugs, taking into account the undeniable fact that each member of the medical team (pharmacist, physician, nurse) can be potential patient, and may be exposed to advertising and resort to self-treatment. The age of respondents was from 17 to 68 years, the average age was 28.6 (standard deviation  $\pm$  12.6). According to the article, the respondents were distributed as follows: 79.6% (109 abs) – women; 20.4% (28 abs) – men. By the place of residence: 74.5% (102 abs) inhabitants of cities; 25.5% (35 abs) – villages. In order to obtain more detailed information on the distribution of respondents' answers and their comparison, all of them were standardized by us on specialty: pharmacists (n=84; 61.3%), non-medics (n=32, 23.4%), doctors and nurses (n=21; 15.3%) (Fig. 1).

The distribution of respondents allowed us to make more in-depth conclusions about comparing their answers to the controversial, however, in our opinion, the actual and problematic questions of the questionnaire, and therefore – to track their priorities regarding advertising of drugs and self-treatment.



**Figure 1.** Characteristics of the contingent of respondents (n=137).



**Figure 2.** From what other sources do you get information about the drugs? Note: The response rate is not 100% since respondents chose several responses.

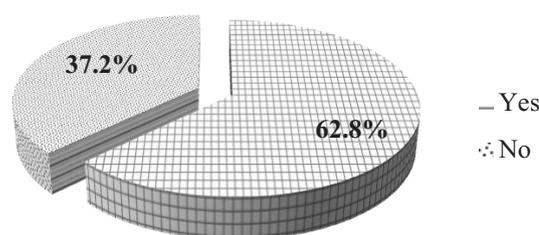
The results of the questionnaire survey showed that ½ (50.0%) of the respondents are positive about the drug advertising on TV, 20.0% – do not watch it, at the same time, 30.0% of the respondents indicated a negative attitude to the advertising of drugs.

It has been established that advertising is a priority source of information about medicines in 20.0% of respondents who positively answered the question «Is advertising for you a priority source of information about medicine?». At the same time, quite interesting results were obtained regarding the answers to the question: «From what other sources do you get information about the drug?», since the answer «from television and radio advertising» was ranked 4<sup>th</sup> (33.6%), after the following: 1) «from the doctor»; 2) «from the pharmacist in the drugstore» and 3) from the Internet (Fig. 2).

Thus, the vast majority of respondents (70.1%) receive information about the medicine from the doctor; 62.8% from the pharmacist and 60.6% from the Internet. At the same time, 21.9% of respondents listen to the advice of their neighbors, friends, relatives when choosing a drug; 21.2% collect information from periodicals (newspapers, magazines, brochures, etc.) and 15.3% from advertisements in transport, on big boards, stands, etc.

The opinion of respondents regarding the need to advertise medicines in the media was divided by 50/50, as 50.0% voted «for» advertising of drugs in the media and 50.0% «against». According to 41.0% of the respondents, it is necessary to promote OTC drugs, 25.0% consider it expedient to advertise the drugs of plant origin and 16.5% – dietary supplements. At the same time, 17.5% of respondents indicate that only prescription drugs should be advertised.

Advertising affects the choice of drugs of 26.0% of the respondents, and 74.0% – does not. Despite the fact that most of the studied cohorts point out lack of the influence of drug advertising, 62.8% of them buy drugs in the drugstore, about which they learned from advertising (Fig. 3). Thus, our scientific hypothesis concerning the direct influence of drug advertising on the commitment of patients to the pharmacotherapy is confirmed.



**Figure 3.** Have you, at least once, purchased medicines about which you have learned from advertising?

The overwhelming majority (85.0%) of respondents indicated that they used drugs to eliminate certain symptoms (headache, runny nose, diarrhea, cough, allergy, etc.); 59.0% – for the treatment of acute diseases (influenza, bronchitis, tonsillitis, etc.); 47.0% – for preventive purposes (vitamins, dietary supplements, etc.) and 13.0% – for chronic diseases (hypertension, diabetes, chronic bronchitis, etc.). It is noteworthy that only 1 (0.7%) of the respondents indicated that they did not use any drugs.

The next stage of our study included the processing of questions 9 and 10 of the questionnaire, for a detailed analysis of the drug groups and specific drugs that respondents purchased in the pharmacy and used for self-treatment. To this end, we have formed 17 pharmacotherapy groups (208 trade names {TN}, of drugs), which are most often advertised on television (Table 1).

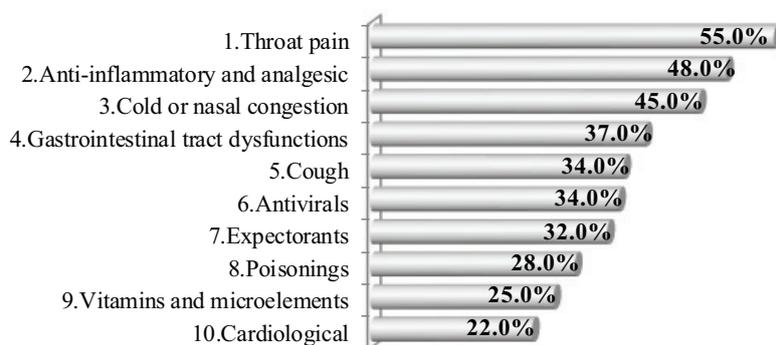
Most often respondents interviewed by us for self-treatment turn to the pharmacy for the following groups of medicines: 55.0% – for throat pain; 48.0% – anti-inflammatory and analgesic; 45.0% – in the case of cold or nasal congestion; 37.0% – for dysfunctions of the gastrointestinal tract; 34.0% – for cough; 34.0% – antivirals; 32.0% – expectorant; 28.0% – for poisoning; 25.0% – vitamins and microelements and 22.0% – cardiological (Fig. 4).

As a result of this analysis, we identified the top 10 trade names of drugs, which most respondents buy at a pharmacy and use for self-treatment (Fig. 5). It should be noted that the top 10 was formed by 18 drugs, as some of

**Table 1.** Formed by us 17 pharmacotherapy groups (n=208 TN of drugs), which are most often advertised on television.

Pharmacotherapy group	ATC code	TN of drugs (n=208)
1. Anti-inflammatory and antirheumatic products, non-steroids; other analgesics and antipyretics	M01A; N02B	26
2. Antacids; digestives, incl. enzymes; antipropulsives; drugs for constipation; antidiarrheal microorganisms	A02A; A06A; A09A; A07D; A07F	23
3. Topical products for joint and muscular pain; cicatrizants	M02A; D03A	17
4. Throat preparations	R02A	14
5. Decongestants and other nasal preparations for topical use; other cold preparations	R01A; R05X	13
6. Complex homeopathic products	Unavailable*	13
7. Antifungals for topical use	D01A	13
8. Cough suppressants, excl. combinations with expectorants; cough suppressants and expectorants, combinations	R05D; R05F	12
9. Direct acting antivirals; immunostimulants; antivirals for topical use	J05A; L03A; D06B	11
10. Expectorants, excl. combinations with cough suppressants	R05C	11
11. Vitamins and microelements (multivitamins, combinations; vitamin b-complex, incl. combinations; iodine therapy)	A11A; A11E; H03C	11
12. Bile and liver therapy (bile therapy; liver therapy, lipotropics)	A05A; A05B	9
13. Hypnotics and sedatives; other nervous system drugs	N05C; N07X	8
14. Anti-allergic drugs (antihistamines for systemic use)	R06A	7
15. Cardiac therapy (other cardiac preparations; antithrombotic agents)	C01E; B01A	7
16. For poisoning (intestinal adsorbents; electrolytes with carbohydrates)	A07B; A07C	7
17. Urologicals drugs	G04B	6

Note: \*ATC-code of complex homeopathic products is absent in Ukrainian State List of Registered Drugs 2018 ([www.drlz.com.ua](http://www.drlz.com.ua))



**Figure 4.** \*Top 10 drug groups, for which respondents most often turn to a pharmacy for self-treatment. Note: \*The response rate is not 100% since respondents chose several answers.

them scored the same number of respondents' responses and, accordingly, was placed at one level.

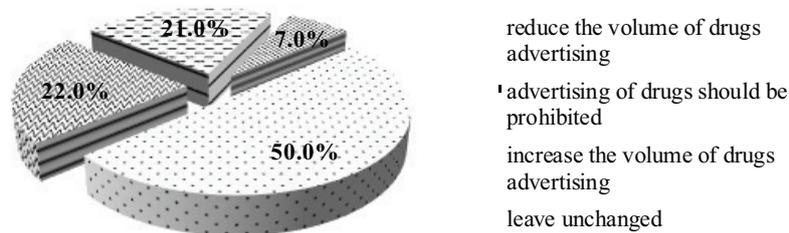
Thus, on the first place is the drug «Strepsils», for which 33.0% of respondents appeal to pharmacies, on the second place – «Noxprey» (20.0%), the third place was taken by «Mezym» and «No-Spa» (18.0% each). Taking into account the above, it can be assumed that one of the key reasons for the increased demand/popularity of certain drugs among the population is their advertising on television, which, as a rule, is especially intensified during the holidays (overeating, alcohol use, etc.) and/or the rise of seasonal diseases (colds, acute respiratory infections, flu, etc.). Additional confirmation of the existence of the influence of drug advertising on the respondents was the

final question of the questionnaire to find out their favorite advertising slogan. There are 27 advertising slogans of drugs, which were mentioned by respondents in total 67 times. Most often respondents noted 3 slogans: «Mezym» – 19.4%; «Duphalac» – 16.4% and «Espumisan» – 11.4%. It is noteworthy that 4 respondents (6.0%) mentioned the warning information as their favorite slogan: «Self-treatment is harmful to your health».

It is alarming that when answering the question «Do you always pay attention to the warning about the danger of self-treatment, placed below the advertising?», 34.0% of respondents do not consider this information, which, in our opinion, indicates a potential risk of irresponsible self-treatment.



**Figure 5.** Top 10 position of drugs that are most often bought by respondents in the pharmacy and used for self-treatment.



**Figure 6.** What measures, in your opinion, need a drug advertising situation in Ukraine?

Most respondents (90.0%) do not consider advertised drugs as effective and safe, and 61.0% say that drug advertising contains contradictory and incomprehensible information. Almost all respondents (88.0%) are convinced that advertising about drugs is not always objective and fair. At the same time, according to 50.0% of respondents, the volume of drug advertising in Ukraine should be reduced, 22.0% of respondents believe that advertising of drugs should be prohibited (Fig. 6).

## Discussion

The results of the analysis of modern domestic and foreign experience from the studied problem showed that advertising of drugs is a subject of special attention from the state (Kordubaylo 2014b; Nosenko 2015b; Dmitrik 2016b; Movchazna 2016c; World Self-Medication Industry 2008a, 2019a; Chan 2016). Government health promotion campaigns help people to think more about their health and become more aware of their symptoms and condition. Nonprescription medicines' advertising reinforces this by showing the availability of medicines that can help. Regulations should recognize the role and limitation of advertising. Basic standards will ensure that the information conveyed is truthful and not misleading to consumers. Health departments, regulators and manufacturers should work together to ensure that consumers have the information they need about the benefits and risks of the medicine (World Self-Medication

Industry 2008b). Strengthening control over the observance by the subjects of economic activity of legislation on advertising, in particular, by introducing harsh sanctions for violating the legislation on the advertising of medicinal products and establishing effective forms and means of monitoring compliance with legislation on the advertising of medicinal products (World Self-Medication Industry 2019b). After all, medicines, in contrast to other products, are a special product of consumption. Their misuse is associated with significant risks to health, and sometimes to human life. These risks are greatly increased if patients, under the influence of «aggressive» advertising, resort to self-treatment. The existing mechanism of legal regulation of drug advertising requires some improvement. The restriction of advertising of OTC drugs, reviewing its objectivity and conscientiousness is a significant step towards solving the problem of irresponsible self-treatment and self-prescribing of drugs.

According to the results of our survey, it was determined that advertising affects the choice of drug for the treatment of 26.0% of the respondents. Despite the fact that the majority of respondents indicate that there is no influence on drug advertising, 62.8% of them buy drugs in the pharmacy, about which they learned from advertising for self-treatment. Thus, our scientific hypothesis about the presence of the direct influence of drug advertising on the commitment of patients to the pharmacotherapy is confirmed. The majority of respondents (90.0%) do not consider advertising of drugs to be effective and safe, and 61.0% say that drug advertising contains contradictory and incomprehensible

information. Almost all respondents (88.0%) are convinced that advertising about drugs is not always objective and fair. At the same time, according to 50.0% of respondents, the volume of drug advertising in Ukraine should be reduced, 22.0% of respondents believe that advertising of drugs should be prohibited.

## Limitations

The study had several limitations. The main of them is relatively modest size sample. Another drawback is that research was conducted only in one town. Therefore, the findings cannot be statistically generalized. It is necessary to conduct more research in this area.

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## Conclusions

The study showed the need for changes, in particular at the legislative level, to reduce the volume of drug advertising on television and to review its objectivity and fairness. Because the results of the survey showed that more than ½ respondents turn to self-treatment, we believe that informing and polling the population about problem issues related to advertising of medications in the media will have a positive effect on the rationality of the choice of medicines and will emphasize the public's attention to the importance of responsible attitude towards own health and pharmacotherapy. Financial support and sponsorship: Nil.