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## WHY DO WE INCREASINGLY SEEK SELF-MEDICATION WITH OTC DRUGS? ONE QUESTION – THREE ANSWERS

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Overconfident consumer decisions, unequal or limited access to health care services and related pharmaceutical services, economic disparities and limitations are the factors that contribute to the ever increasing self-medication of Bulgarians – mainly through the use of non-prescription medicines (OTC) drugs, nutritional supplements, bioactive food components and medicinal herbs. This, in turn, further weakens the relationship between patients, physicians and pharmacists. Increased sales of non-prescription medicines and nutritional supplements are motivated by the general public's view on these products as adjunct medications, means of acute and chronic disease treatment, and heightened awareness of overall health and well-being. A survey conducted by Booz & Co. shows that 240 million people buy OTC drugs annually; 60 million of those consumers do not seek a medical consultation or a treatment by a specialist. Therefore, the availability of OTC medicines creates significant value – \$ 102 billion in yearly savings for the U.S. health care system, e.g. every dollar spent on OTC medicines saves \$ 6–7.

**Keywords:** self-medication, pharmaceutical market, adverse medical reaction (AMR), non-prescription medicines (OTC) drugs, health.

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### **Introduction**

In the context of the ongoing health reform, Bulgarian patients are not only the final consumers of pharmaceutical products, but above all, important customers in the same market. Patients' opportunity for free choice and their out-of-pocket payments for the services received enhance their influence over the aggregate consumption in the pharmaceutical market. The decrease in consumers' purchasing power is a distinct tendency due to the growing social insecurity, inflation, unemployment and impoverishment in times of economic and political crisis. There is also an intense social polarization in the country.

Numerous studies show that consumer healthcare is improving, shaped by the media, which provides vast information on healthcare topics and related product discounts, advertisements of medicines, medicinal products, food supplements and bioactive food components. This process requires patients to obtain additional health related information [2].

Health insured and health literate people have constantly growing needs, demands and expectations for a humane approach and high quality of legitimate healthcare and pharmaceutical services.

Surveys of social research companies show that Bulgaria is one of the countries within the EU, which ranks bottom for health promotion and disease prevention. Individual commitment to health promotion and disease prevention is not strong enough due to scarcity of money, bureaucratic obstacles or insufficient information. One out of ten Bulgarians

seeks self-treatment and self-medication, because patients distrust their physicians and the healthcare system in the country [4].

Improved overall health status would reduce expenditures for hospital treatment, and subsequently, the pressure on the healthcare system. Additional benefits would be the higher job efficiency and the added social value. Long-term outcomes would be a higher quality of life and longer life expectancy.

The above-described factors determine the ever-increasing importance of OTC medicines and patients' interest in non-prescription treatment.

The use of OTC medicines in Bulgaria makes no exceptions as far as global trends are concerned. The share of these products in the pharmaceutical market is constantly rising regardless of the economic crisis. According to the OTC market data, the total expenditure on OTC medicines in Bulgaria in 2010 was 207 million euros, in 2011 – 224 million euros, and in 2012 – 261 million euros. [1, 9].

The diagram below illustrates the OTC market for the period 2009–2012 according to the OTC data (nutritional supplements not included), published on the home page of the Bulgarian Drug Agency of the Ministry of Health.

The above diagram shows that prices increase at a much faster rate than sales, which hinders the accessibility to OTC drugs.

The reclassification of a prescription medicine into an OTC drug could lower the cost of the medical treatment.

The patients' role as consumers of medical products, their health insurance status and their consumption

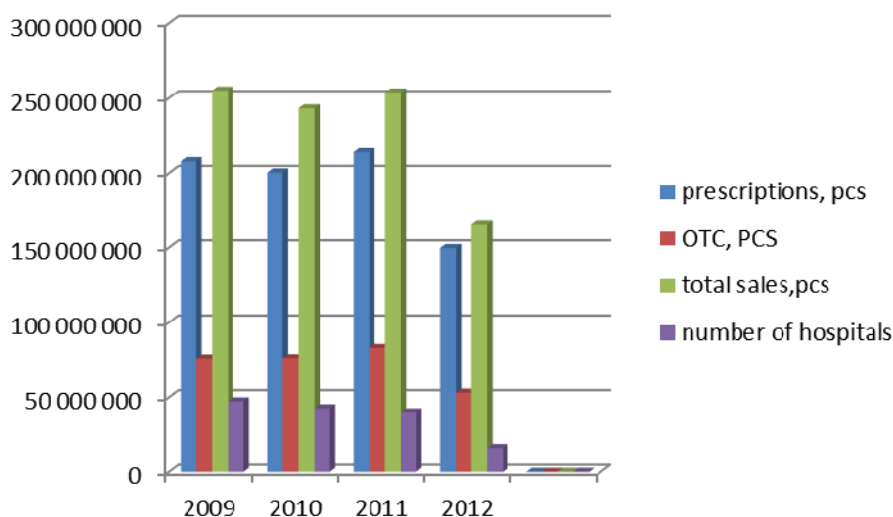


Fig. 1. Analysis of the pharmaceutical market in Bulgaria [6]

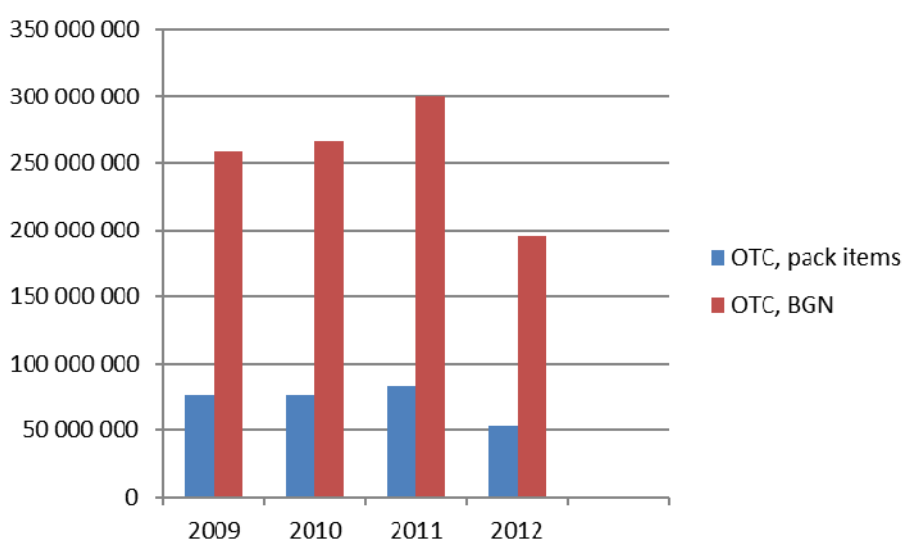


Fig. 2. Comparison between the increase of OTC prices and OTC pack items sales [6]

expenditures turn them into the most important customer in the pharmaceutical market. Consumers' financial ability, trust and satisfaction prove to be both prerequisites and key factors for a stable cash flow and sustainable development of pharmaceutical structures in a highly competitive environment [2].

When calculating the costs of the medical treatment, patients take into account not only the price of the medicines but also the medical fee and the long wait time, which lead to loss of income. Furthermore, the National health insurance fund (NHIF) reimburses only 25% of the cost of the prescribed drugs. Thus, the cost of a treatment with medicines on prescription is much higher than the price of the corresponding treatment with OTC drugs available in each pharmacy [7].

The use of OTC drugs does not specifically require a visit to the doctor and receiving a prescription.

### Objectives

To conduct an opinion survey among patients (consumers), pharmacists and physicians on the main reasons for the purchase and use of OTC drugs and

on the specific aspects of that use according to the medical professionals.

### Methods

The methodology used with all three respondent groups was a direct individual anonymous questionnaire in a written form.

### Results

According to the survey patients (consumers), pharmacists and physicians are unanimous in their opinion that the use of non-prescription medicines in Bulgaria is increasing in line with global trends. With regard to patients' safety, this process requires new behavior standards and additional responsibilities of all health care professionals. In addition, the increased use of OTC drugs has a positive economic impact on the health care system.

Results and discussions: This survey was conducted in the town of Varna. The method used was a direct individual anonymous questionnaire in a written form. The questionnaire gathered information on the main reasons for purchasing OTC drugs, certain

aspects of their use, physicians' and pharmacists' views and attitudes toward self-medication. The survey encompassed a period from February 2013 to October 2013. Customers asking for OTC drugs in pharmacies of different size and location in the town were randomly selected as respondents. The sample of general practitioners and medical specialists was drawn on a random basis from the personnel lists of general hospitals (Multi-profile Hospital for Active Treatment) and diagnostic consultation centers located all over the town. The sample of pharmacists comprised specialists who were interviewed in their professional environment – the pharmacies.

The survey outline some characteristics of the typical consumer of OTC drugs. When asked whether they used OTC drugs, 64.53% of the respondents give an affirmative reply, 27.33% of them give a negative reply, and 8.14% say they rarely have recourse to OTC drugs. Our study finds that the gender or the educational level of the users does not affect the purchase of OTC medicines. This result does not correspond with the results of similar surveys in other countries in the EU showing that people with higher educational level are more likely to seek self-medication. The price is the most influential factor in choosing a pharmacy for the purchase of OTC drugs, and the proximity of the pharmacy comes in second place. Older respondents show lower propensity to seek self-treatment, i.e. the primary users of OTC drugs are young people in active working age and with a higher income. Another distinct

result of the survey shows that the level of income does not affect the inclination to self-medication – users buy OTC drugs regardless of their income. This important characteristic of Bulgarian consumers reveals their natural tendency for self-treatment regardless of their income, i.e. both low-income and high-income consumers buy OTC drugs. Sufficient own funds are not a major factor influencing the type of treatment of Bulgarian patients. Thus, potential consumers of OTC drugs are even people whose income and savings do not cover the cost of self-medication. For the purpose, such consumers are willing to borrow money.

In the pharmacies, there is an increase of the inventory nomenclature of OTC drugs as compared to the inventory nomenclature of medicines on prescription. Pharmacists confirming this fact comprise 58.75% of the respondents, 15% report no such increase in their pharmacies, 22.50% report parity, and 3.75% cannot give a definite answer.

The physicians who report an increase of patients seeking self-medication comprise 57.35% of the survey sample; the other 42.65% do not report such an increase. The respondents' answers take into account self-treatment of both chronic and acute diseases.

In our survey, we match the views of all the respondents in terms of their motivation for the purchase of OTC medications. For this purpose, the respondents of all three focus groups are presented a table with six possible factors. Each factor could be rated from 1 to 5 in ascending order in respect of its importance.

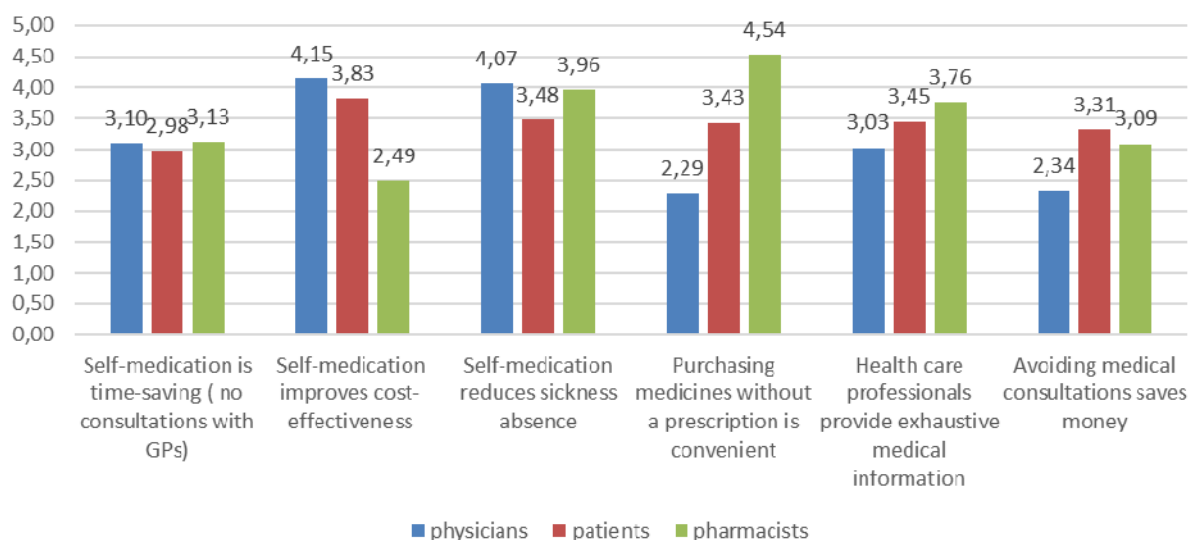


Fig. 3. Comparison of opinions of patients, physicians and pharmacists

According to pharmacists, the strongest motive is the convenience of buying medicines without a prescription – it is rated with a 4.54 out of five. Physicians consider the cost-effectiveness to be the most important factor – its rating is 4.15. Patients share doctors' opinion and rate the cost-effectiveness with 3.83.

The assertion: “Purchasing medicines without a

prescription is convenient” strongly polarizes respondents' opinions. Physicians rate its importance as the lowest of all possible options and consider it an obstacle in their work, whereas pharmacists consider it the first and foremost factor that facilitates the consumers. Patients' opinion is close to the median values in the table. The spread of variance of the data is 2.25.

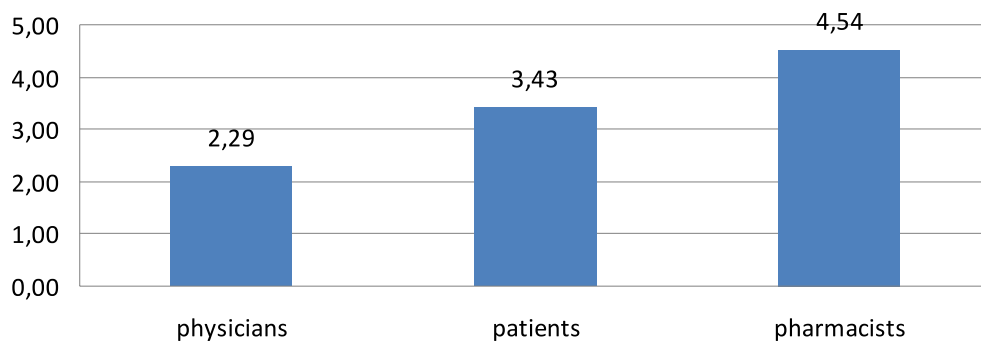


Fig. 4. Purchasing medicines without a prescription is convenient

The importance of the motive “self-medication improves cost-effectiveness” generates strongly diverging opinions among the different focus groups. Physicians consider it the motive with the highest

weight value for choosing OTC drug treatment, whereas pharmacists rate it in the last place. Patients’ assessment values are slightly above the median. The spread of variance of this factor is 1.65.

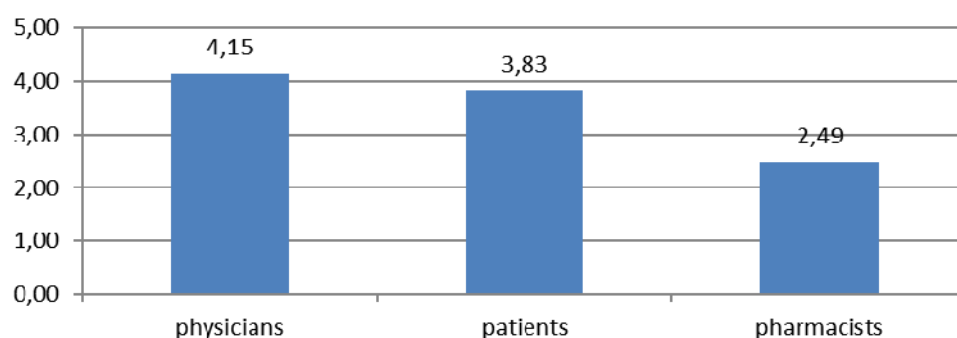


Fig. 5. Self-medication improves cost-effectiveness

The economic cost of each medical treatment is associated with the price of the medicine, the medical fee, the transportation expenses and the cost of sickness absence. The fact that money can be saved

by avoiding consultations is highly appreciated by the patients, whereas physicians do not evaluate it as a very important motive. The spread of variance is 0.97 as shown in the table beneath.

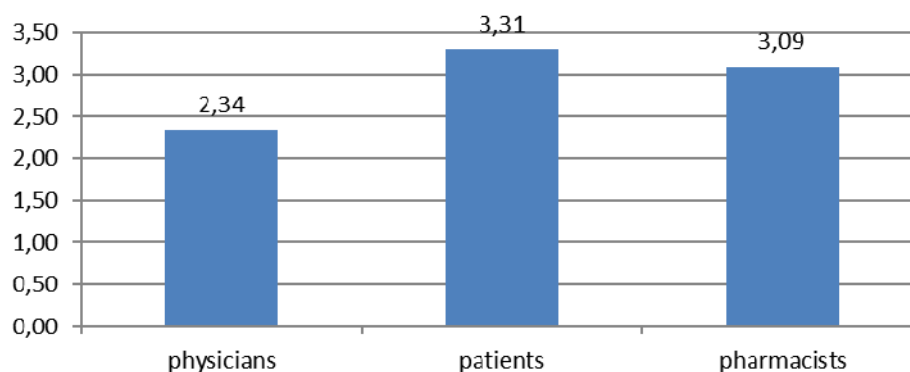


Fig. 6. Avoiding medical consultations saves money

All three focus groups share similar views on the importance of the timesaving feature of self-medication. Therefore, they unanimously assign values higher than the median. The spread of variance in this case is only 0.15 as shown in fig. 7.

Respectively, the healthcare system also benefits from lower levels of reimbursement and less wait time for consultations.

The statement that self-medication reduces

sickness absence generates slightly different opinions among the representatives of the three focus groups. The spread of variance of the data is 0.59. Direct losses are very often associated with sickness absence, while indirect losses are incurred by reduced work ability and low vitality. The healthcare system is frequently burdened by statutory sick pay for conditions, which do not imperatively need inpatient or outpatient treatment.

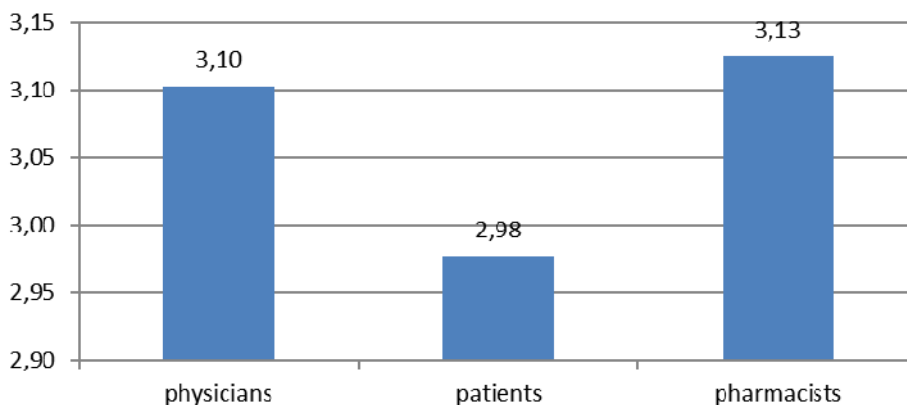


Fig. 7. Self-medication is timesaving

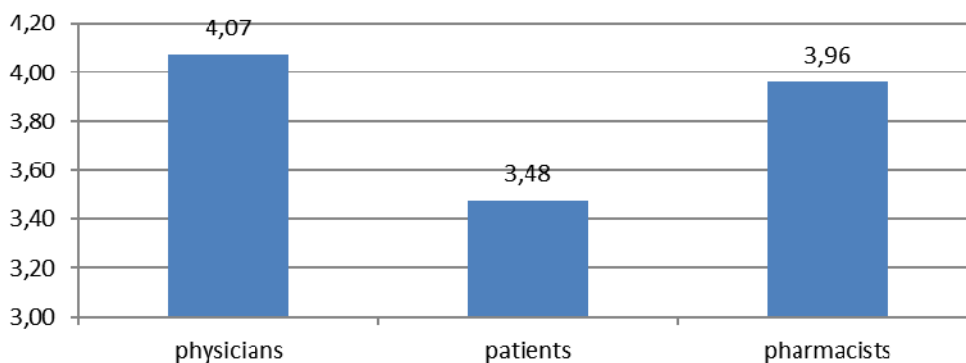


Fig. 8. Self-medication reduces sickness absence

There is a slight variance in respondents' assessment of the additional medical information as an important decision-making factor – the spread of variance is 0.73. Exhaustive information about OTC drugs is of crucial significance for the correct choice and rational use of these

medicines. Therefore, the pharmacies are often the most appropriate places where consumers receive relevant information, and the pharmacists are traditionally the most reliable and accessible source of advice. The table beneath shows the summarized supporting data.

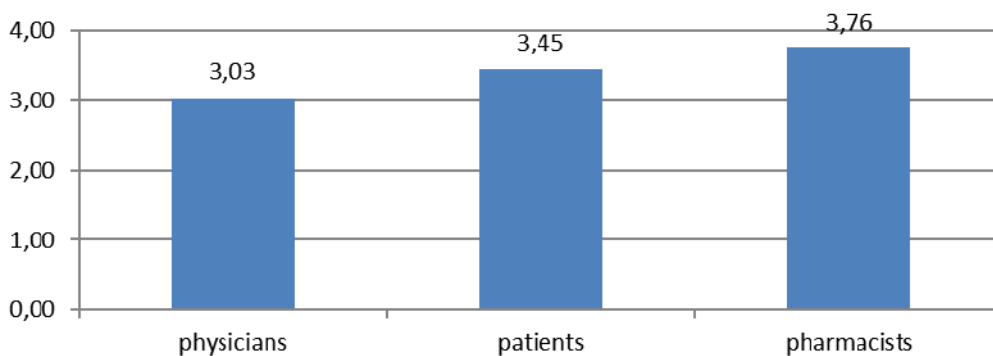


Fig. 9. Health care professionals provide exhaustive medical information

Patients often consider communication with professionals of the utmost importance, whereas physicians view as dominant the administrative, economic, technical and regulatory aspects in providing safety [3].

All three groups of respondents – patients, physicians and pharmacists – manifest most similar assessment of the following three factors: Self-medication is time-saving (no consultations with GPs), Self-medication reduces sickness absence, Health care professionals provide exhaustive medical information.

According to our survey, the prevailing opinion of the pharmacists interviewed is that various forms of advertising have strong impact on patients' choice of medicines – 73.75% of professionals acknowledge this fact. They assess the decisive role of advertising as quite disturbing and believe that the process of purchasing a medicine should include a consultation with a medical professional. This would guarantee the adequate choice of medicines and the safety of patients.

In our survey, we inquire of all three respondent groups to assess the benefits and the risks of the



use of OTC drugs. The majority of the interviewed consumers (46.51%) are not aware of the possible adverse effects of OTC drug treatment; approximately one out of four consumers reports complications resulting from the use of OTC drugs, and 29.07% of consumers cannot give a definite answer whether the adverse medical reaction is a consequence of the treatment with nonprescription medicines.

According to pharmacists, the use of OTC drugs without a professional supervision poses a risk to patients – 57.5% of the respondents share the same opinion, 12.50% of them have a positive attitude towards self-medication, and another 30,00% of them identify potential adverse consequences but do not take a firm position on that issue.

More than half of the physicians (61.76%) are convinced that self-medication mainly poses risks to patients, another 32.35% of them regard self-medication as a source of medical complications, and just 5.88% of them identify only the benefits of such treatment.

Our survey includes a question concerning the reporting of cases of adverse medical reaction. All of the interviewed physicians and pharmacists (100%) answer that they have not filed a report on the internet home page of the Bulgarian Drug Agency (BDA), regardless of the simplified procedure and their own awareness of the high risks of self-medication.

By performing post-marketing control, medical professionals should seek information from patients about the use of OTC drugs.

The BDA system for registration of reports on adverse medical reactions is a part of the European system and legislation. It is mandatory for all medical professionals to comply with the requirements and to report suspected adverse reactions of the products on the pharmaceutical market in Bulgaria.

Nevertheless, Bulgaria is one of the countries in the EU where cases of suspected adverse reactions are most rarely reported by professionals [9]. Such information would enhance responsible attitudes toward self-medication and would increase the economic benefits from this type of medical treatment.

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## **ПОЧЕМУ МЫ ВСЕ ЧАЩЕ ПРИБЕГАЕМ К САМОЛЕЧЕНИЮ С ПОМОЩЬЮ БЕЗРЕЦЕПТУРНЫХ ЛЕКАРСТВЕННЫХ ПРЕПАРАТОВ? ОДИН ВОПРОС – ТРИ ОТВЕТА**

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Самоуверенность потребителей, неравный или ограниченный доступ к услугам здравоохранения, а также связанных с ними фармацевтических услуг, экономическое неравенство и ограниченность в средствах. Эти факторы являются основными причинами роста самолечения населения Болгарии, в основном, с помощью использования безрецептурных лекарственных препаратов (БЛП), пищевых добавок, биологически активных пищевых средств и лекарственных трав. В первую очередь, это вызывает еще большее ослабление связи между пациентами, врачами и фармацевтами. Увеличение продаж БЛП и пищевых добавок мотивированы знаниями широкой общественности об этих продуктах, как адьюнкт-препаратов, обеспечивающих лечение всевозможных острых и хронических заболеваний, а также стремлением населения в улучшении своего

### ***Inferences***

The importance of post-marketing control is growing simultaneously with the sale increase of OTC drugs. Patient safety and high-quality standards of medical practice are inextricably linked. Communication and collaboration between patients and medical professionals should be strengthened.

Safe and cost-efficient self-medication necessitates an explicit definition of those conditions that are appropriate for self-diagnosis and self-medication.

### ***Conclusions***

The use of nonprescription medicines will certainly grow. Their rational use will facilitate the process of obtaining optimal therapeutic results at lower costs both for the patients and for the national healthcare system.

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общего самочувствия. Недавно проведенное исследование американской компанией «Booz & Company» показало, что ежегодно 240 миллионов американцев покупают БЛП. При этом 60 миллионов из этих потребителей не обращаются за медицинской помощью. Таким образом, безрецептурные препараты экономят системе здравоохранения США 102 млрд. долларов в год. В исследовании также отмечается, что на каждый доллар, потраченный на БЛП, система здравоохранения экономит от 6 до 7 долларов.

**Ключевые слова:** самолечение, фармацевтического рынка, неблагоприятные медицинские реакции (НМР), безрецептурные лекарственные препараты (БЛП), здоровье.

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### Комментарий от редакции

Рост самолечения населения с помощью безрецептурных лекарственных препаратов (БЛП) является одной из актуальных проблем общественного здравоохранения. С каждым годом число тех, кто по разным причинам прибегнул к самолечению неуклонно возрастает. Это обусловлено постоянным и быстрым ростом уровня общих знаний населения, «благодаря» лавинам рекламной информации о лекарственных средствах, распространяемой всевозможными путями, и в том числе через телевидение и Интернет, где контроль за такого рода информацией ограничен.

Самолечение является, с одной стороны, гигантским ресурсом здравоохранения, а с другой – совокупностью всевозможных потенциальных рисков для потребителей, связанных с неправильным применением БЛП, нередко не предназначенных или абсолютно противопоказанных.

Не случайно отечественное здравоохранение уделяет проблеме самолечения населения самое пристальное внимание. Причина очевидна: если в развитых странах мира регулирование безрецептурного отпуска медикаментов постоянно совершенствуется, то в России этот важнейший компонент качества фармакологических средств практически пущен на самотек.

В системах здравоохранения многих стран мира признано, что самолечение играет важную роль в охране здоровья населения и по мере повышения его образовательного уровня и улучшения социально-экономических условий его жизни успешно интегрируется.

На американском континенте и в странах Европейского Союза лекарственные препараты для самолечения, не требующие рецепта врача (так называемая, категория *over-the-counter* – ОТС), выпускаются, продаются и предназначены для применения потребителями по их собственной инициативе. Самолечение может быть использовано для предупреждения и лечения симптомов и

недомоганий, не требующих медицинских консультаций или наблюдения. Оно снижает нагрузку на органы здравоохранения, особенно когда их ресурсы ограничены. Самолечение особенно актуально для населения, проживающего в сельской или отдаленной местности, где доступ к медицинскому обслуживанию затруднен. Однако при неэффективности самолечения или прогрессировании состояния, по поводу которых оно применяется, пациенты должны обращаться за профессиональной медицинской помощью.

В то же время, прежде, чем делать заключение о потенциальной полезности самолечения необходимо рассмотреть и ряд серьезных проблем, которые связаны с его потенциальными рисками. Они подразумевают, прежде всего, не только доступность БЛП, но и их безопасность, наличие необходимой потребителю информации и недопущение любой задержки в диагностике и терапии заболевания, не подлежащего самолечению. Кроме того, известно, что применяемые для самолечения лекарственные средства взаимодействуют со многими рецептурными препаратами, алкоголем и продуктами питания, что необходимо учитывать врачам при сборе анамнеза. Кроме того, рекламная информация, направленная на формирование чувства уверенности в безопасности продукта, часто создает впечатление, что БЛП являются чем-то вроде панацеи и заменяют собой эффективные рецептурные препараты. Кроме того, серьезными проблемами являются избыточное потребление БЛП и их использование по немедицинскому назначению.

Не случайно, коллеги из Болгарии, разбирая пользу и потенциальные риски самолечения, приходят к выводу: безопасность и экономическую эффективность самолечения обуславливают необходимость как можно более частых общений и консультаций пациентов с медицинскими работниками по поводу употребления БЛП.