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SELF-MEDICATION IN HUNGARY, FROM THE PERSPECTIVE OF PHARMACY WORKERS

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Abstract: The primary objective of this research was to evaluate the pharmacist's views on self-medication, their perceptions of advertisements for OTC medicines, and their knowledge and awareness of people that purchase OTC medicines. The data were gathered in Hungarian pharmacies with questionnaires distributed as inserts in two trade journals – *Gyógyszertár* and *Pirulatrend*. The questionnaires dealt with five main issues: advertisements for OTC medicines, questions related to self-medication, patient-pharmacist communication, questions related to the usefulness of patient information sheets, and demographic data. The gathered data were coded and analyzed with the SPSS 13 software. Some respondents (34.9%) believed that the effects of OTC medicines are exaggerated in advertisements. According to 58.2% of professionals, members of the public are aware of the medicine that is currently being advertised, but not of other medicines with similar effects. Providing assistance in self-medication is perhaps one of the most important means of promoting the correct use of medicines. Our results highlighted the need to strengthen communication between patients and pharmacists. Pharmacy workers are in a position to assist the public. However, little is known regarding the patient experience of the distribution and services provided by pharmacies related to OTC medicines. These experiences should be researched and combined with our findings in order to draft a set of guidelines for purchasing OTC medicines. We recommend that pharmacists keep individual records detailing patient experience and use of OTC medicines.

Keywords: communication, self-medication, medication habits, pharmaceutical advertisements, pharmaceutical marketing

For a growing proportion of the population, the pharmacy has become the first – and often the only – stop in the search for medicine or medical advice. An increasing number of people are embarking on self-medication without consulting a doctor, often under the influence of advertising. In these cases, the pharmacist's attention, communication, and advice have taken on a new significance, because he or she is the only person sufficiently competent to intervene for a patient that, lacking the appropriate medical skills, administers medicines based on advertisements or hearsay in a manner that may endanger his or her health or that of a dependent (1).

Self-medication with over the counter (OTC) medicines is an economical means of treatment, but it has limitations. The range of medicines available to the public OTC is growing steadily, and the most sought-after of these are antipyretics and painkillers, which are in demand by some 90% of the population (2). The rising number of available OTC medicines may also encourage patients to use them more frequently in case of illness (3).

The main factors that influence most people in their decision of where to purchase OTC medicines are convenience, cost, and the availability of expert advice (4). The healthcare profession, in general, has recognized the need to acquire special skills in order to assist in improving the quality of life of patients. Pharmacists are making a serious effort to achieve this objective, actively making improvements in order to fulfil the expectations of the public. One of the most important challenges for the pharmaceutical profession is to respond appropriately to the information needs of the population (5).

Self-medication with OTC medicines is the most prevalent form of healthcare (6). In 2007, public expenditure on OTC medicines amounted to 25.9 billion Euros and accounted for 15% of total pharmaceutical expenditure in the European Union (7).

The counter pharmacist, who is in daily contact with the patient, has at his or her disposal a whole arsenal of effective medicines, and is capable of evaluating the results of his or her own medication recommendations, particularly with chronic patients. He or she has

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the advantage of being able to assist the patient in selecting and using the appropriate medicine. The enlightenment of patients is the key to the future of the pharmacist profession, thus the pharmacist should not regard the patient as a passive recipient that is expected to follow therapeutic instructions, but should treat patients as active participants in the selection of medicines.

Surveys have shown that, in the case of a pharmacy located in a provincial town (with a turnover of 148 patients per day), an average interaction lasts three minutes, in contrast to the 30 second slots allocated for TV advertisements. In Hungary, the advertising of OTC medicines has only been permitted for the past ten years; thus, this research did not include a detailed study of the individual types of advertisement and their different impacts.

Some 31% of pharmacist-patient discussions revealed the influence of pharmaceutical advertising (8).

Because TV advertisements are short (approximately 30 s), they approach the given problem from a single viewpoint, operating with a single, attractive 'catch line', for example: "this really does act fast!" or "a clear nose without irritation", etc. When patients make decisions carelessly, relying on one or two tempting 'promises', they often forget or confuse the name or effect of the advertised products. Because these decisions are not properly considered, overdosing, mistreatment, or undesirable interactions can easily occur (9).

The personality and communication skills of the doctor and pharmacist are among the most important factors in healing. A good pharmacist that is attentive, communicates well, takes care of his own mental well-being, and also runs a successful business is more likely to be trusted by his clientele. A large number of people regard the pharmacy as a place to go for making an attempt at self-medication prior to visiting the doctor. The pharmacy is a place where they can receive professional advice and medicine to alleviate their symptoms. People with chronic diseases and older patients may visit the pharmacy for care, attention, and social interaction, which may be at least as important as the medicines for the relief of symptoms (1). According to the research of Amoako et al., some 95% of illnesses are initially treated with OTC medicines (2).

The UK medical journal "Family Practice" has shown statistical evidence that patients preferred to request advice from a pharmacist (61.1%), rather than their general practitioner, when they did not consider the illness to be too serious. According to the journal's survey, 11.3% of respondents sought the advice of a pharmacist when they did not have time to make an appointment with their doctor. With this trend of self-medication, there appears to be a parallel trend in self-education; data showed that slightly more than 80% of the population often read the patient information sheet of OTC medicines before taking them (10). However, there is a paucity of evidence on patient experiences with pharmacy distribution and services related to OTC medicines (11–14).

The primary aim of this study was to assess the opinions of pharmacy employees regarding self-medication, and to examine and summarize their views on OTC medicine advertisements, people's awareness of medicines, and people's self-medication habits. In our analysis, we sought to determine the progress required in order to provide more effective support for the practice of self-medication.

METHODS

The quantitative primary research was conducted with questionnaires. Three main aspects were considered when compiling the questionnaire. First, the required information had to be translated into specific questions that the respondents were willing and able to answer; second, we aimed to motivate respondents to answer all the questions; and third, we wanted to minimize the possibility of erroneous replies. We started with a questionnaire that had 10 open questions, which was completed by employees at 50 pharmacies. Based on the most common replies, we compiled the final questionnaire, consisting of 20 closed questions.

We then analyzed the replies with descriptive statistics, cross-table analyses, and statistical hypothesis testing. The statistical analyses were performed with the SPSS 13.0 program suite. The frequency table displayed the number of observations, their percentages, and the cumulative distribution of each variable. The cross-table combined the frequency distribution of one or more variables in a single table. Through hypothesis testing, we examined whether the replies given to the questions (1–20 in the questionnaire) displayed any variation depending on age, professional position, or the local environment of the pharmacy. In the following, we only describe those results that revealed a significant divergence in the replies. The significance level was 5%. We performed the hypotheses test using a chi square test, with Yates correction where necessary.

A total of 6,000 questionnaires were distributed, with a cover letter, to pharmacies in Hungary. The self-completion questionnaires were delivered to 2,100 pharmacies as newspaper inserts in two different newspapers. Practical assistance was provided by the editorial staff of the trade journals *Gyógyszertár*

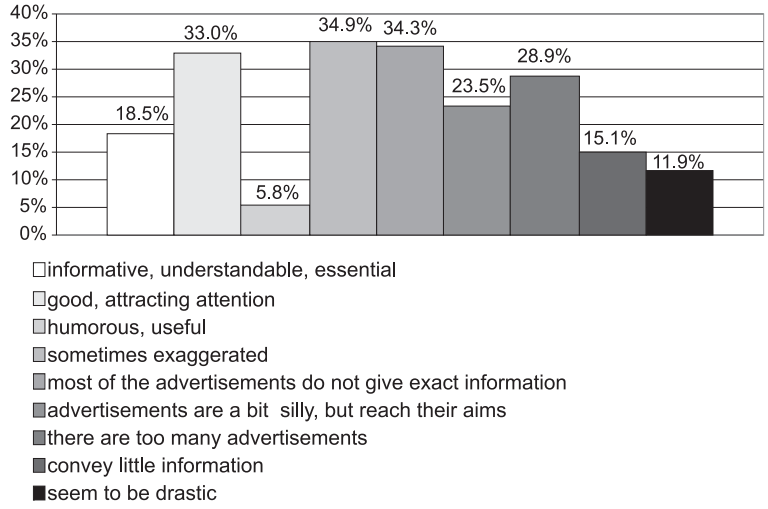

Figure 1. Pharmacists' responses to the question: What do you think about the advertisements for non-prescription drugs? (multiple choice)

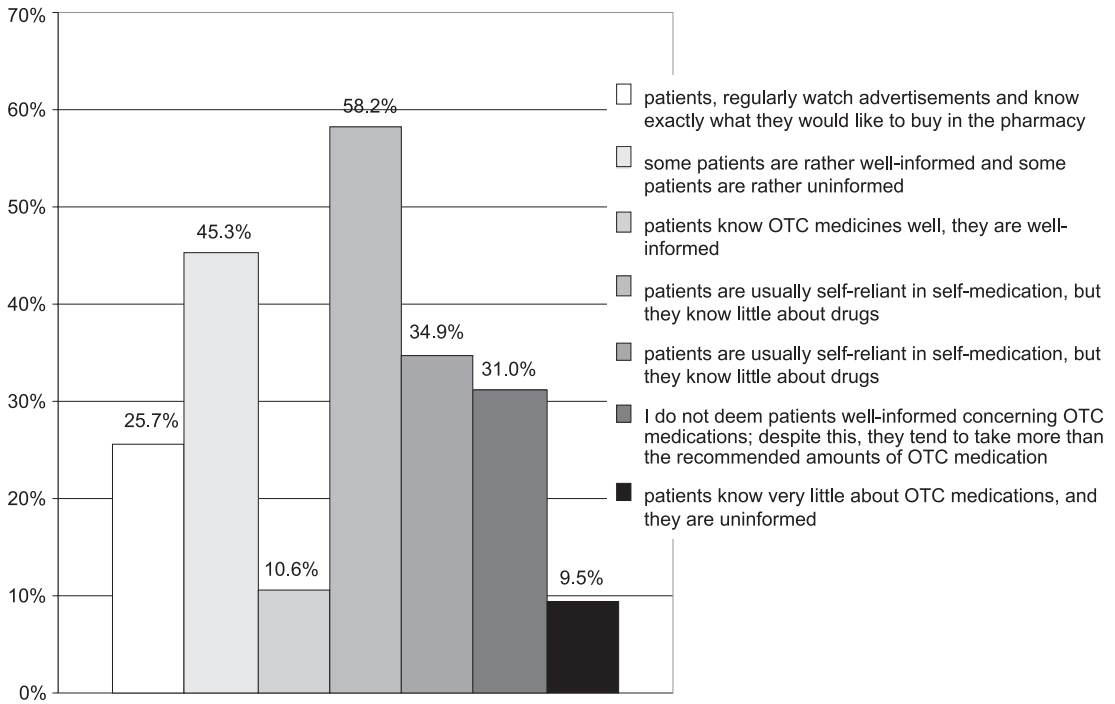

Figure 2. Pharmacists' responses to the question: What do you think about how much patients know about the different non- prescription drugs? (multiple choice)

and *Pirulatrend*. The questionnaires were returned by mail or collected in person. The responses were given voluntarily, without remuneration. A total of 4,536 questionnaires were evaluated. The respondents were between ages 19 and 75, with a mean age of 45.9 years. The ratio of women to men was 4.2:1.

The respondents served at pharmacy counters on a full-time basis. A total of 62% of the respondents were qualified pharmacists, 38% were qualified pharmaceutical assistants; 33% were pharmacy managers, and 19.0% held a specialist qualification. The pharmacies were located in small settlements with populations under 5,000; small towns with 5,000 to 10,000 people; towns with 10,000 to 50,000 people; large towns with populations of more than 50,000; or Budapest, with 2 million inhabitants.

The respondents were grouped by age, as follows: 19–34, 35–54, 55–65, and over 65 years old,

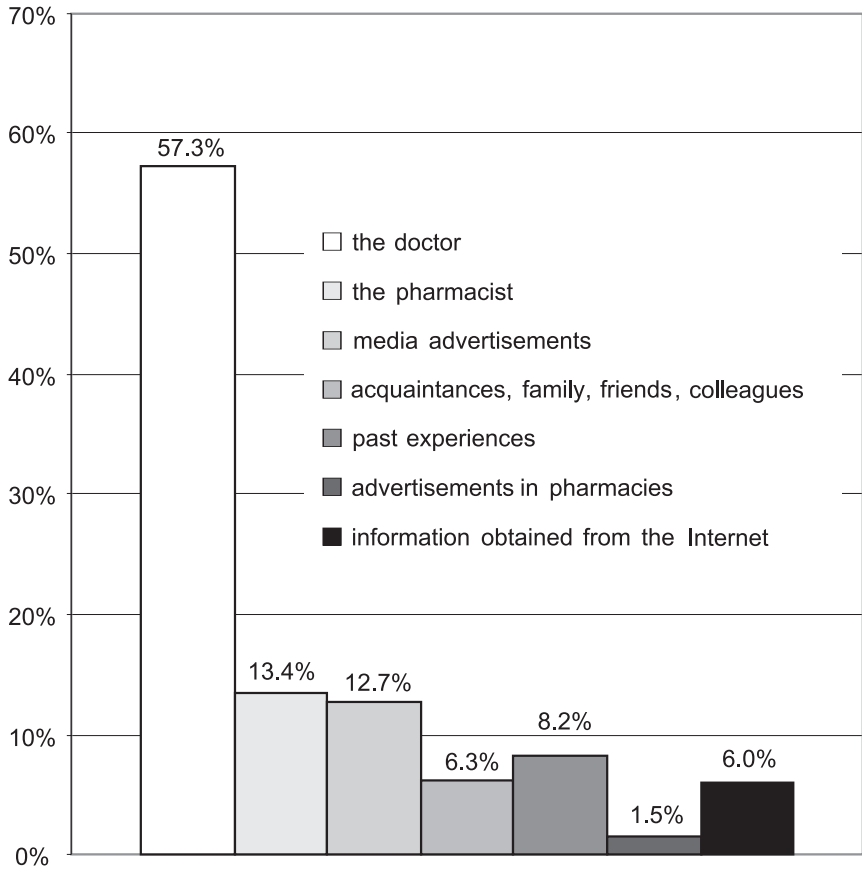

Figure 3. Pharmacists' responses to the question: According to your experience, by order of importance, whose advice is taken when patients decide on which non-prescription drugs to buy? (multiple choice)

in accordance with the ages at which the respondents could be expected to hold the given qualifications, since this could be a determining factor for some of the responses.

RESULTS

Opinions regarding OTC medicine advertisements

The OTC medicine advertisements were approved and regarded as attention-grabbing by 37% of pharmacists that worked in towns. However, only 17.3% of employees in small settlements held this opinion. Pharmaceutical assistants considered the advertisements to be informative and comprehensible for the most part (41.6%), but only 18.0% of pharmacists shared this opinion. Some 73.3% of assistants and 39% of qualified pharmacists believed that the ads sometimes exaggerated the medicinal effects. A average 34.4% of men expressed the view that most advertisements did not give precise information, an opinion shared by 61.3% of pharmacists working in small settlements; 32.2% of pharmacists believed that there were too many advertisements. Figure 1 shows the opinions of pharmacy professionals regarding OTC medicine advertisements.

According to pharmacy employees, how informed are patients regarding self-care?

More than 70% of specialists observed that patients only have a basic understanding of OTC medicines. This opinion was shared by the same percent of pharmacy employees working in settlements with populations less than 50,000. Nearly half (45.3%) of male respondents believed that some patients are very well-informed, while others are ill-informed. With increasing age brackets of the respondents, there was an increasing prevalence of the view that patients do not possess a sound knowledge of the medicines, and are uninformed. Workers in Budapest pharmacies observed that a relatively high proportion

Table 1. Questions and answers

Questions and multiple response answers	Number of agreements (%)
What opportunities exist to provide better assistance to customers in OTC purchases?	
Rely on authority and personal appeal for conveying expertise	1438 (31.7)
More assistance could be provided if more time could be spent with individual patients	1878 (41.4)
More information should be provided to patients in newspapers and journals	313 (6.9)
Prevention should be given greater emphasis	2114 (46.6)
Patients have always been given comprehensive assistance in pharmacies	1161 (25.6)
What is your opinion about the usefulness or disadvantages of patient information booklets?	
Patients need expert information	1860 (41.0)
Some patients are scared by the list of side effects, and do not take the drug	1669 (36.8)
Information booklets are more and more understandable	236 (5.2)
The booklets are useful	1270 (28.0)
Sometimes the information terrifies the patients	1379 (30.4)
The list of side effects makes people insecure	1533 (33.8)
Very useful, but they could be improved with simpler, shorter text and larger typeface	1810 (39.9)

of the population (22.4%) are well-informed and have a good understanding of the medicines.

In the opinion of pharmacy employees in settlements of less than 10,000 people, patients generally make their own decisions regarding self-medication, but have a more superficial awareness of the medicines. The view that patients are unenlightened, but nevertheless over-medicate themselves, was held most prevalently (40%) among pharmacists and pharmaceutical assistants. This opinion was held by 31% of respondents, comprising four times as many women as men. Respondents in the 55–65 year old bracket believed (to an extent of 14.9%) that patients are minimally aware of the effects of the medicines and are uninformed. Figure 2 gives an overview of all the respondents' opinions regarding patient self-medication.

Appropriateness of information imparted by pharmaceutical ads

An equal proportion of pharmacists and assistants (35%) considered the information imparted by advertisements to be of value. Within this group, a higher proportion (38.6%) of employees in settlements of over 50,000 regarded the advertisements as useful. We found that 57.3% of women and 42.7% of men held a favorable opinion of the information imparted by the ads. About 54% of pharmacists considered the advertisements to be moderately appropriate. This opinion was most widely held by pharmaceutical assistants (64.5%); pharmacy professionals in settlements of 10,000 to 50,000 displayed a similar view (65.9%). An equal proportion (3.8%) of women and men regarded the information imparted by ads as excellent; a view shared by 8.5% of assistants, and 8.0% of employees in settlements of less than 5,000. However, around 5% of pharmacists believed the information contained in advertisements is inappropriate; a view held by 10.5% of employees in settlements of less than 10,000, and 4.0% of those working in the capital.

What proportion of the population request OTC medicines by name?

According to 3.0% of respondents, a high proportion of patients (90–100%) ask for OTC medicines by name. This was also observed by 4% of pharmacists in settlements with less than 50,000 inhabitants. On average, 30.8% of respondents indicated that 70–90% of patients request OTC medicines by name; 34.4% of pharmacy workers aged 35–54 said that 70–90% of patients request medicines by name, a view that was shared by 40.4% of qualified pharmacists. On average, 36.6% of respondents observed that 50–70% of patients request medicines by name; this belief was held by 54.5% of pharmacists and 20% of pharmacy workers in settlements of less than 10,000. An average 20.3% of respondents stated that 30–50% of the population know the name of the medicine they wish to purchase. This view was shared by 35.7% of professionals in the over-65 age group, and by 28.0%, of workers in Budapest. An average 9.3% of respondents observed that only 30% of the population request medicines by name. This opinion was shared by 11.9% of respondents aged 55–65, and 16.0% of pharmacy workers in settlements of under 5,000.

Assistance in the selection of OTC medicines

A growing number of pharmacy customers purchase OTC medicines with the aim of commencing self-medication without consulting a doctor. As a result, the focus of the pharmacist's duties has shifted from handling prescriptions to providing information and advice to the patient. Patients expect pharmacists to communicate the information regarding medicines in terms that they can understand. Patients often feel helpless as a result of their illness and have little or no understanding of the underlying causes and opportunities for treatment; thus, they are usually uncertain of themselves, and hungry for information. The information sources that Hungarians consult are depicted in Figure 3.

What might be the most important factors that guide patient choices of OTCs?

Some 60% of the population seek information regarding the side effects, and 51% seek the correct administration of the medicine. The most frequently cited reasons for not asking the pharmacist, despite a need for information, were embarrassment and ignorance.

What opportunities exist to provide better assistance to customers in OTC purchases?

We found that 20.7% of respondents believed that the introduction of pharmacist care programs would be of great assistance to the population; 12.9% stated that the creation of an advice counter would be very useful; and 48.3% said that the best way to help the population would be through advice and communication. About 36.0% of respondents believed it would be possible to help patients by being patient and attentive when they purchase OTC medicines (Table 1). Expertise, authority, and interpersonal skills would help the patient, according to 31.7% of respondents; 41.1% held the opinion that more time should be devoted to each patient; and 46.6% said a greater emphasis must be placed on prevention. We found that 25.6% of pharmacy workers believed that pharmacy customers have always received all possible assistance. According to 6.9% of respondents, patients need to receive more comprehensive information in newspapers and periodicals.

We found that 29.0% of pharmacy workers in settlements of less than 50,000 inhabitants believed that the introduction of pharmacist care programs could be of assistance to patients that purchase OTC medicines; this opinion was shared by half the pharmacists over 65 years of age. More than half of the under-55 age group of pharmacists held the view that patients could be best assisted through the provision of advice and the use of communication. This was also the recommendation of specialists working in settlements of less than 10,000 inhabitants.

We found that 39% of women held the opinion that patience and attentiveness were key skills; this view was held by 45.0% of assistants and 43.5% of workers in settlements of 10,000 to 50,000 inhabitants. We found that 44.5% of male pharmacy workers believed that expertise, authority, and interpersonal skills could provide better assistance to patients. We found that 56.6% of assistants stated that they could better help patients make decisions if they could devote more time to them. Some 17.4% of professionals in the under-35 age group held the opinion that more comprehensive information could be provided through newspapers and periodicals. This view was also held by 14.5% of the pharmacists.

Over half of the professionals in settlements of over 10,000 inhabitants and over half of female pharmacy workers believed that prevention should receive more emphasis. Many respondents – in a proportion that increased with age (14.7% – 50%) – held the view that patients have always received all possible assistance in pharmacies.

Pharmacy workers' opinions regarding the usefulness of patient information sheets

Although the packaging of OTC medicines contains detailed information, 3.4% of patients rarely or never read this information. This figure may appear low, but combined with the 10% of patients that admit to only occasionally reading the information sheet, the proportion is relatively high (13.4%) (8).

Almost half of pharmacy workers in settlements of 10,000 to 50,000 inhabitants believed that, besides the information sheet, patients also need the advice of a professional.

Some 48.5% of men and 33.9% of women observed that some patients do not take the medicine because they are alarmed by the possible side-effects. This view was shared by close to half of those working in settlements with populations of less than 10,000. In settlements of over 50,000 inhabitants, 9.7% of pharmacy employees said that patient information sheets are becoming easier for patients to understand. We found that 38% of pharmacists believe patients sometimes find information sheets alarming. This opinion was also held by 44.8% of specialists in Budapest, and 45.3% of workers in settlements of less than 5,000 inhabitants. About 39.0% of pharmacists judged that a

long list of side-effects arouses uncertainty in patients.

The higher the age group of the respondents, the more useful they considered the information sheet to be; 47.8% of the 55–65 age bracket and 64.3% of the over-65 age group regarded the instructions to be useful, with the caveat that they could be improved by simpler, more concise wording, and a larger typeface.

DISCUSSION AND CONCLUSION

This study aimed to ascertain pharmacists' opinions regarding the advertising of OTC medicines and its informational value. We found that more than 70% of pharmacy professionals observed that patients only have a basic understanding of OTC medicines. Some 50–70% of the population request OTC medicines by name. Patients in Budapest are more likely to know the name of the desired medicine compared to patients in settlements with populations of less than 5,000. We speculate that this is partly because residents of the capital have access to far more information compared to the inhabitants of small settlements. We also speculate that a similar correlation might be true for the age of the patients. Compared to older patients, younger patients are more likely to receive information from their parents, advertisements, and the internet. The young patients might be more open and receptive than older patients. In contrast, the over-65 age group is likely to have far more difficulty in gaining access to information. It has been shown that, compared to men, women are more receptive to new medicines and the advice of pharmacy professionals. Compared to employees of pharmacies in large cities, the employees of provincial pharmacies are more often solicited for advice, but are also able devote more time to each patient. This system rewards pharmacists not only for the delivery of medicines, but also for the pharmaceutical care that they provide. Such a remuneration system explicitly recognizes the value of pharmacy services. It is also in line with evidence that the majority of patients are willing to pay for pharmacy services related to OTC medicines (11).

The environment of a community pharmacy is well suited to providing medication information, particularly when the pharmacy has a separate consultation room for private communication with the patient (15).

In general, people do not have a deep understanding of OTC medicines, but tend to make decisions in response to advertisements, with the result that the desired effect is not necessarily achieved. For this reason, without the advice of a professional, the image of a given medicine can become questionable or negative. Without sound professional advice, the patient has only the accompanying leaflet on which to base a responsible decision; this may be difficult to evaluate under conditions of poor health. Consequently, patients justifiably expect to be dealt with properly, and receive professional advice regarding the treatment of the condition and alleviation of pain. The provision of this form of care is one of the most important roles of the pharmacist. Therefore, adequate attention should be provided when explaining the effects and side-effects of medicines, great care must be taken to establish the correct dosage, and an effort should be made to forge positive relationships with patients.

The population needs to be made aware of the need to seek professional advice when purchasing OTC medicines, and to exercise caution in making purchasing decisions based purely on advertising. In addition, effective algorithms need to be formulated that can adequately guide self-medication. Internet technology developments are also needed to create links between the databases of pharmacies and those of doctors; this would make it possible to gain an accurate picture of a given patient's overall medication program. In other words, pharmacists need to be excellent communicators, must be familiar with the advertisements, and must understand the psychology of persuasion.

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