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CONSUMER BEHAVIOR IN OTC MEDICINES MARKET

ZACHOWANIA KONSUMENCKIE NA RYNKU LEKÓW OTC

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STRESZCZENIE

Leki OTC (z ang. over-the-counter) to preparaty sprzedawane bez obowiązku okazania recepty lekarskiej. Celem pracy była ocena stanu wiedzy grupy badanej na temat zakupu i stosowania leków OTC. Istotą badania było stwierdzenie czy czynniki, takie jak: wykształcenie, dochód, rodzaj i miejsce wykonywanej pracy wpływają na nabywanie i zażywanie leków OTC.

Materiał i metody: Anonimowym badaniem kwestionariuszowym objęto cztery równoliczne (po 100 osób każda) grupy badane: dwie grupy zawodowe – pielęgniarek i osób pracujących poza sektorem medycznym oraz dwie grupy studentów – kierunków medycznych oraz niemedycznych, zamieszkujących obecnie na terenie województwa śląskiego. Ankietowani odpowiadali na 47 pytań. Dane pozyskane z ankiet poddano analizie statystycznej wykorzystując test χ^2 ($p < 0,05$).

Wyniki i wnioski: Ponad połowa badanych stosuje leki typu OTC. Respondenci nabywają farmaceutyki głównie w aptece. Osoby związane z sektorem medycznym kierują się opinią i poradą farmaceuty częściej, niż osoby spoza tego sektora. Większość ankietowanych nie zna składu stosowanych przez siebie leków OTC, w grupie tej znajduje się także personel medyczny i osoby studiujące na uczelni medycznej.

Słowa kluczowe: leki, OTC, wiedza, samoleczenie

ABSTRACT

Over-the-counter (OTC) drugs are pharmaceuticals sold without a medical prescription. The goal of the paper was to evaluate the awareness in the studied group of people concerning purchasing and usage of the OTC drugs. The essence of the research was to determine whether factors as: education, income, type and place of work influence purchase and use of OTC drugs.

Material and methods: Four equal groups (100 people each) were studied by an anonymous questionnaire. Two occupational groups: nurses and people working outside the medical sector, and also 2 student groups – from medical and non-medical schools living in Silesia. Respondents answered 47 questions. Data received from the questionnaire were statistically analyzed by means of the χ^2 test ($p < 0.05$). Results and conclusions: More than half of the respondents use OTC drugs. The respondents mainly buy the medicines in pharmacies. People connected with medical sector more often take pharmacists' advice and opinion than people from non-medical sector. The majority of the respondents are not familiar with chemical composition of the OTC drugs they take. Among them medical staff and medical schools students are to be found.

Key words: medicines, OTC, knowledge, self-cure

INTRODUCTION

Drugs sold without a medical prescription, so called OTC drugs (over-the-counter), are commonly known and used form of pharmacotherapy. Drugs without prescription are available in many places like pharmacies, shops or gas stations. Most of them fight off mild disorders which do not require professional medical consultation. Moreover, OTC drugs usually have higher therapeutic index than the prescribed ones and as a consequence they are less likely to cause side effects. One might say that the idea of OTC drugs is to self-cure common ailments as well in the pre-diagnostic phase. To be admitted to trade as an OTC medicine, a

drug must be safe in use for a limited time (usually 3 to 5 days) in specific easy for self-diagnosis cases like: cold, gastrointestinal disorders and pain (1, 10). It has to be remembered, that those drugs are used to relieve the symptoms but do not treat the cause of them. OTC drugs may also mask more serious symptoms. OTC drugs usage pattern is dictated by the pharmaceutical companies' business, which led to the situation that consumers have unlimited access to wide variety of pharmaceuticals. OTC drugs are winning larger and larger pharmaceuticals market share. In Poland, according to published and statistical data, OTC share constitutes more than 30%, in other European countries 10-20% (according to PMR and PharmaExpert data, OTC market value in

2009 was about to reach 6.9 billion PLN. To compare in year 2006 market value was 5.7 billion PLN, which corresponds to 33% pharmaceutical market value (2)). Governments' Health Care Policy fundamental role is to support and broaden health knowledge in society, also in terms of self-cure. This is to relieve Health Care System services form basic and simple preventive and therapeutic actions. Thanks to that patient responsible for his health, begins the treatment when concerned by the symptoms. However, there emerges a question whether an average person's knowledge is sufficient enough to start a treatment without consulting it with a doctor. Is a pharmacist's advice within so called pharmaceutical care, often marginally treated by pharmacist themselves enough? This study is an attempt to answer this question.

The purpose of the conducted research was to evaluate knowledge of people from medical and non-medical environment (students and staff) about OTC drugs usage. Factors like educational and occupational background of people using these drugs were taken into consideration. The research was to find answers to three basic research questions:

- Does education, income and occupation influence buying and using OTC drugs?
- Do respondents from medical sector have better knowledge on OTC drugs?
- Which OTC drug type is most frequently purchased and used?

MATERIAL AND METHODS

During the project an anonymous questionnaire was held. Survey was carried out using randomly selected respondents. Author's questionnaire was used during the project. The questionnaire consisted of 47 closed questions, open questions and half-open questions (7 questions concerning respondent's data and 40 detailed questions concerning purchasing and using OTC drugs). The survey was held on a group of 400 people living in Silesia, who constituted 4 separate groups (100 people each):

- Medical students (from Medical University of Silesia in Katowice): Medicine (19 people), Pharmacy (24 people), Medical Analysis (19 people), Public Health (38 people).
- Non-medical students (from University of Silesia in Katowice and University of Economics in Katowice): Science (Biology, Environmental Protection, Chemistry, Physics, Geography, etc. – total of 46 people), Humanities (Philology, Law, Human Resource Management, Social Policy, etc. – total of 54 people).
- Medical staff: nurses from the hospital ward (50

people), from the operating unit (33 people) or other positions (17 people).

- Non-medical staff: people professionally not connected with medicine include: miners, shop assistants, waitresses, etc.

The questioned people were chosen by independent drawing. Entry criteria included students and working people. Exclusion criteria included unemployed and not studying people. There were 67% of women (269 people) and 33% of men (131 people). Majority of respondents were people aged 20-29 and people with secondary education. MS Office Excel was used to develop databases presented in the paper. Data from the conducted questionnaire were coded as qualitative variables measured on nominal scale. Statistical analysis was performed with StatSoft Statistica 8 package by means of the χ^2 test for qualitative characteristics (where the adopted level of significance equals to $p < 0.05$), with Cramer's strength association V coefficient added.

RESULTS

Analysis results showed that OTC drugs are bought by 81.3% of respondents, usually less than once a month. People from non-medical environment (non-medical students and non-medical staff) tend to buy OTC drugs more often than medical staff ($\chi^2=19.15427$; $p=0.00903$). Altogether, 64.6% of respondents buy OTC drugs for their personal use, where a pharmacy is the place of purchase (92.3%).

Income influences the amount of money spent by respondents on OTC drugs. People with declared income over 1000 PLN per person spend more than 10 PLN monthly on OTC drug, prices of drugs are not their primary criterion. Analogically, people with declared income under 1000 PLN per person, spend less than 10 PLN monthly to buy OTC drugs, for them price is the main buying criterion. Ninety six percent of respondents

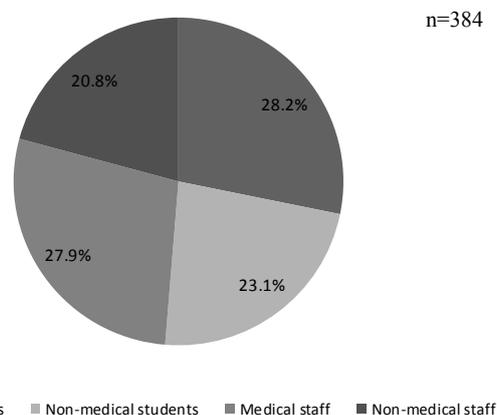


Fig. 1. Percentage of respondents using OTC drugs
Ryc. 1. Odsetek respondentów stosujących leki OTC

use OTC drugs (Fig. 1). Statistical analysis highlighted differences between analyzed group membership and OTC drugs use frequency ($\chi^2=18.35163$; $p=0.00314$).

This type of drugs is the most frequently used one (everyday) among medical staff. This fact can be explained by drug accessibility in respondents' work places. Drugs availability have direct impact on popularity to take them by medical staff group, while harmless (in their opinion) symptoms occurs. In turn, 60.0% of respondents regarded the pharmacist for a person whose sentence can rely on. The important aspect of selection is considered the drug of its composition (mostly among the medical community). Respondents much less suggest the promotion of pharmaceutical product, or the name of the manufacturer.

Analgesics are used by 87.8% of OTC drugs takers. Respondents decide to take analgesics in case of strong pain (pain was assessed at three scales), especially among medical staff ($\chi^2=16.45287$; $p=0.01152$). The most frequent reasons for taking analgesics are: headache 69% of respondents, menstrual pain 18% (women participation rates in the study, were almost two times higher – it determined the final result). Other reasons for taking OTC drugs were: sore throat, stomachache, toothache, injury related pain, and others undefined (Fig. 2).

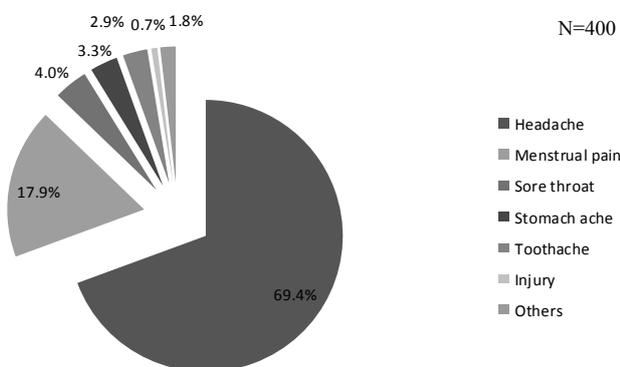


Fig. 2. Most common types of pain reported by OTC drugs takers

Ryc. 2. Najczęstsze rodzaje bólu zgłaszane przez respondentów sięgających po leki OTC

The most popular medications contained ibuprofen like: ibuprom, ibum, nurofen, etc. mostly among students and non-medical staff. To compare, medical staff tends to choose medications containing paracetamol. Knowledge of OTC drugs composition was the highest among medical students and medical staff ($\chi^2=39.29904$; $p=0.00001$). Only 30% of respondents, asked about the composition of its analgesic, is aware of the active substance in the preparation. More than 70% of the respondents were not familiar with taken OTC drugs composition, which is an alarming fact. Statistical analysis showed that, 90.1% of the studied group reads the leaflet enclosed to drugs, and 97.4% of respondents declared, that they understand leaflets information. Unfortunately, as the majority of the respondents were not aware of the pharmaceuticals composition, it can be assumed that they did not understand leaflet information correctly. Respondents assessed (subjectively) their OTC drugs dosage. The majority, as many as 79.5%, believes that they do not overuse OTC drugs. This group was mostly represented by medical students and medical staff (Fig. 3). It has to be noticed that also medical staff is using OTC drugs the most frequently. Conducted study showed that medically educated and experienced people deny their actual OTC drugs intake. That fact is disturbing, as people from medical environment are obliged to serve as an example for people with non-medical background. 50% of the respondents do not buy or do not use OTC drugs according to their good health and as a consequence they do not need medications.

Only 14% of the respondents were against any treatments without doctor's supervision.

DISCUSSION

OTC drugs market is one of the fastest growing markets in Poland. There was noted a dynamic and fast increase in drug sales, simultaneously new pharmaceutical brands appeared. Poland is the country with one of

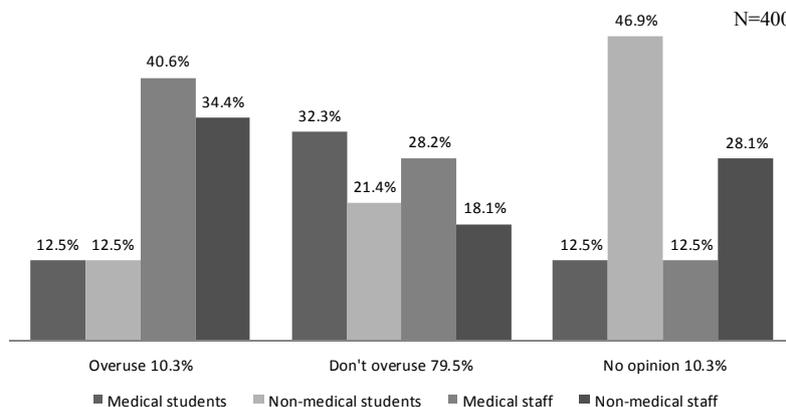


Fig. 3. Respondents' subjective opinion on OTC drugs intake

Ryc. 3. Subiektywna ocena respondentów dotycząca zażywanej przez nich ilości leków OTC

the highest levels of pharmaceuticals' consumption per capita. Every year OTC drugs sales value increases by several percent (TNS OBOP). Pharmaceuticals market is very unique, and it has its own rules and responsibilities towards its market participants. The main target of pharmaceutical companies is to sell their product, and more importantly to convince an average consumer to buy it. Lately, OTC drugs sector evolved, especially outside the pharmacy sales channel, which became a convenient way to distribute OTC drugs. TNS OBOB research showed that 15% of the consumers bought OTC drugs outside pharmacy in last 6 months (3, 4). Despite growing attractiveness of outside pharmacy distribution, still the most popular place to buy drugs without prescription are pharmacies. The pharmacists are the ones whose opinion is the most important factor that people value when buying OTC drugs (9).

One of the most concerning fact is lack of chemical drugs composition knowledge and drugs probable interactions with food, alcohol or other drugs (7, 8).

Conducted study allows to recognize that drugs without prescription are commonly accepted form of pharmacotherapy, and their main users are women. Additionally, more than half of respondents had secondary education, and $\frac{3}{4}$ of them were under 40 years old (6). OTC drugs are generally taken in case of pain (7, 8). Low cost and easy access are the usual reasons for buying OTC drugs. The forecasts shows that in year 2012 polish people will buy OTC drugs, derma-cosmetics and diet supplements for total sum of 10.6 billion PLN. The consumers' decisions to buy OTC drugs depends mostly on their income. There is a positive correlation between income and the number of purchased OTC drugs. People with higher monthly income spend more money on OTC pharmaceuticals. From economic point of view, these medications are treated by the consumers the same way as other goods on the market – income growth increases the demand.

Examination of different study groups showed that knowledge of people from medical environment is higher mainly in terms of knowledge in active substances found in analgesics. In other cases statistical analysis showed small or lack of differences between study groups. It means that awareness of people with medical background do not differ significantly from average knowledge on OTC drugs.

CONCLUSIONS

Pharmacies are the most popular place to buy drugs without prescription and pharmacist's opinions are most useful for the consumer. Income is positively correlated with the number of purchased OTC drugs. People with higher monthly income spend more money on OTC

medications. OTC medicines are the most frequent used by medical staff. Respondents knowledge about the OTC analgesics drugs compositions is not sufficient. Self-cure phenomenon is very common and it should be subjected to control.

The broad phenomenon of self-curing is worth conducting further research and analysis based on monitoring of pharmacotherapy and its effects. Cooperation between patients and pharmacists along with side-effects control should be the subject of analysis. According to global trends, patients want to be more and more responsible for own their health, also by using active prevention. However, to make this happen, it is essential to facilitate the access to the information about potential dangers of inappropriate use of OTC drugs.

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