

THE IMPACT OF SELF-MEDICATION WITH NSAIDS / ANALGESICS IN A NORTH-EASTERN REGION OF ROMANIA

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Abstract

Self-medication is a widespread practice to treat health problems, being involved in delayed diagnosis, worsening of disease evolution and the occurrence of adverse effects.

The aim of the study was to evaluate the prevalence of the use of analgesics, anti-inflammatory and antipyretic form of medicines as self-medication in a population group in the North-eastern Romania (rural *versus* urban areas) and medical reasons for their administration. The questionnaire method was applied to two groups of people in rural and urban areas from north-eastern Romania. Study duration was six months (August 2013 - March 2014), while self-medication was monitored. The study was approved by the Ethics Committee of UMF "Gr. T. Popa" Iasi. Our study included 461 people aged between 20 and 90 years old, of which 55.3% were from urban areas *versus* 44.7% from rural areas, females being dominant (75.5%). The drugs we tracked were used by 84.8% of the surveyed population, in most cases the administration being made without prior professional advice. Of the 281 participants from urban areas, 92 % have turned to self-medication, compared with 52.11% in rural areas. Paracetamol (46.6%), ibuprofen (30.4%) and metamizole (12.7%) are among the most widely used analgesics, both in urban and rural areas. The most frequent symptoms that required self-medication were: headache (urban and rural areas), respiratory disorders (predominantly urban) and osteo-articular problems (rural areas). Misuse of painkillers and anti-inflammatory drugs, especially in urban areas is an important concern for health care services, thus necessitating the implementation of national programs to inform and educate the population on the risks of self-medication.

Rezumat

Automedicația este o practică larg răspândită pentru tratarea problemelor de sănătate, fiind implicată în întârzierea diagnosticării, agravarea evoluției unor afecțiuni și în apariția efectelor adverse. Scopul studiului a fost evaluarea prevalenței utilizării de analgezice, antiinflamatoare și antipiretice sub formă de automedicație, într-un grup populațional din nord-estul României (mediul rural *versus* urban) și motivele medicale care au determinat administrarea acestora. S-a aplicat metoda chestionarelor pe două loturi de persoane din mediul rural și urban. Durata studiului a fost de șase luni calendaristice

(august 2013 – martie 2014) fiind urmărită automedicația. Studiul a fost aprobat de Comisia de Etică a U.M.F. „Grigore T. Popa”, Iași. Au fost incluse 461 persoane cu vârste între 20 și 90 de ani, din care 55,3% - urban, 44,7% - rural, dominant fiind sexul feminin (75,5%). Medicamentele urmărite au fost utilizate de 84,8% din populația chestionată, în majoritatea cazurilor administrarea fiind fără o consiliere de specialitate prealabilă. Din cei 281 de participanți din mediul urban, 92% au apelat la automedicație, comparativ cu 52,11% din mediul rural. Paracetamol (46,6%), ibuprofen (30,4%) și metamizol (12,7%) se numără printre cele mai utilizate analgezice, atât în mediul urban, cât și rural. Simptomele cele mai frecvente care au impus apelul la automedicație au fost: cefaleea (ambele medii), afecțiunile respiratorii (predominant în mediul urban) și afecțiunile osteo-articulare (mediul rural). Utilizarea abuzivă de analgezice și antiinflamatoare, în special în mediul urban, trage un semnal de alarmă pentru sistemul de sănătate, fiind astfel necesară implementarea de programe de informare și educare asupra riscurilor automedicației “iresponsabile”.

Keywords: self-medication, anti-inflammatory drugs, pain killers

Introduction

Self-medication has been traditionally defined as “the taking of drugs, herbs or home remedies on one's own initiative, or on the advice of another person, without consulting a doctor”. This is increasingly common in the world, being encouraged by governments in different countries and supported by pharmaceutical industry [1].

Family, friends, neighbours, or suggestions from advertisements in newspapers or popular magazines are common sources of self-medications as most of the patients want to play an intelligent, independent and informed role in the management of the diagnostic and therapeutic activities which concern them. The most common self-administered drugs detected in most population studies are anti-inflammatory drugs and analgesics, followed by antibiotics [2, 3].

In less developed countries, self-medication is considered “responsible” because it may help to treat diseases that do not require medical attention and may reduce overuse of medical services; self-medication’s purpose is to solve minor health issues [4].

Although the potential benefits seem to be of a financial nature, self-medication can frequently cause unwanted side effects that would increase healthcare costs, creating an additional burden on the sanitary system [5].

Materials and Methods

The study was conducted between August 2013 - January 2014 (6 months) on a population group from North-eastern Romania (rural *versus* urban), with the help of several General Practitioners from different areas of Moldavia: Suceava, Vaslui, and Iasi counties. Our study included 461

people aged between 20 and 90 years. The research was carried out using questionnaires concerning self-administered drug consumption on a period of six months prior to the interview. The questionnaires were anonymous and the data obtained were used exclusively for statistical processing. They were sent by post and we recorded an 87% response rate. The study had the approval of the Ethics Committee of the University of Medicine and Pharmacy “Gr.T. Popa” Iasi. The collected data were analysed by the SPSS 18.0 software, using the paired T test for quantitative analyses and Chi-square test for differences in proportions.

Results and Discussion

From the total of 461 subjects, 281 were from urban area - students from various universities from Iași and 180 were randomly selected from several rural areas: Putna and Dragomirna from Suceava county, Miclești from Vaslui county and Lețcani from Iași county. The analysis of the demographic data showed that more than 70% of the study population was under 30 years old (Figure 1) and, regardless of the origin, most of our participants were females (75.48 %).

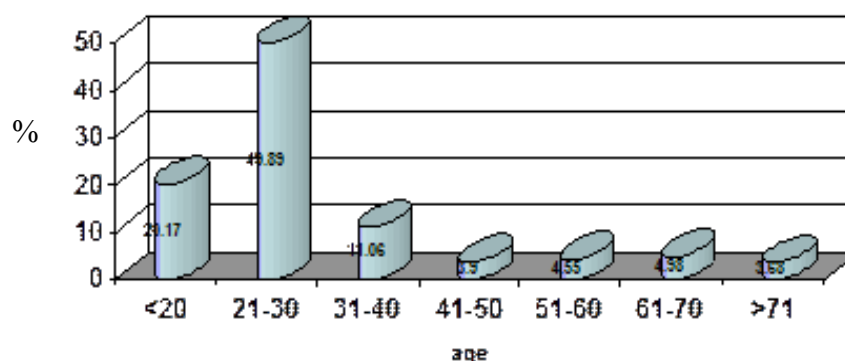


Figure 1.

Study population distribution by age

The number of persons who used self-medication increased proportionally with the duration of time: 45.55% were recorded in the first month *versus* 80.55% in the total of 6 months of our study. Analysing self-administered drug consumption in relation with residence area, we found that there was no significant difference between urban (92%) and rural (80.55%) areas, but the most commonly used drug was paracetamol (46.6%), followed by ibuprofen (30,4%) and metamizole (12.7%) (Figure 2).

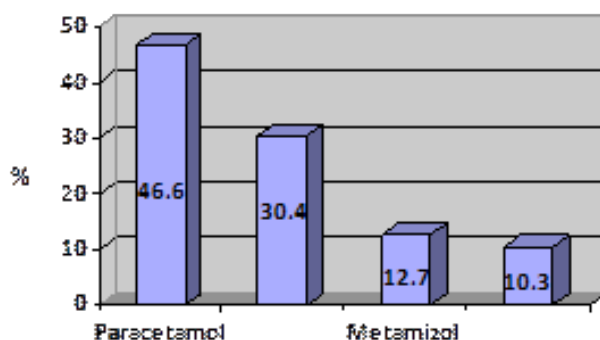


Figure 2.
The incidence of the drugs used

The most frequent symptoms that required self-medication were:

- rhinorrhoea and cough, significantly increased in urban areas (67%) compared to rural areas (27.9%, $p = 0.002$);
- headache, in similar proportions in both areas (46.4% in rural *versus* 40% in urban areas);
- abdominal pain, in similar proportions in both areas (46.4% in rural *versus* 44% in urban area) (Table I).

Table I.

Symptoms for which the drugs were used in rural area and urban area

Symptoms	Rural Area		Urban area	
	Percent %	Statistical differences	Percent %	Statistical differences
Rhinorrhoea cough	27.9%	$\chi^2=9.91$ df=1 p=0.002	67%	$\chi^2=8.36$ df=1 p=0.004
Headache	46.4%	$\chi^2=11.98$ df=1 p=0.001	40%	$\chi^2=90.5$ df=1 p=0.001
Abdominal pain	46.4%	$\chi^2=11.98$ df=1 p=0.001	44%	$\chi^2=111.4$ df=1 p=0.001

χ^2 - Chi square test; df - degrees of freedom; p - level of statistical significance; - the mean difference is significant at the 0.05 level

Over the past years there has been a push-back against the paternalistic model of health, towards a more person-centric approach involving self-care and responsible self-medication with non-prescription

(or over-the-counter, OTC) medicines. The new approach in this domain consists in accepting the switching from prescription to non-prescription status due to the fact that modern patients wish to take a greater role in the maintenance of their own health and are often competent to manage uncomplicated or/and recurrent illnesses after proper medical diagnosis and with only occasional professional advice [6].

Studies carried out on self-medication state that this is a very common practice, especially in economically deprived communities.

In a study conducted in Croatia, self-medication was a common practice and anti-inflammatory drugs (97%) were the most commonly used by far in the study [7]; similar data were published by studies carried out in Sudan [8], Nepal [9] and Jordan [10]. In all the studies, the most used drugs in the practice of self-medication were analgesics, anti-inflammatory drugs, and antibiotics.

Our study explored the risk of self-medication in the North-eastern region of Romania, and our population group had representatives from all groups of age, equally distributed according to gender and residence area. We focused mainly on young, educated people from urban area (mostly students from various universities) and elderly people from agricultural rural zones. Our data showed that there were no significant differences based on education, gender, residence area considering self-medication as all people implied in the study were exposed equally to advertisements and availability of drugs from pharmacies. Self-medication was equally found in rural and urban areas (80.55% vs 92%), our group having predominantly female gender (75.48%) and young population (70.06%). We focused on three drugs related to self-medication: paracetamol, ibuprofen (one of the safest non-steroidal anti-inflammatory drugs) [3] and metamizole, as they are currently part of the composition of a large number of drugs used to treat headaches, colds and transient pain [11]. Our data showed that paracetamol was used in 46.6% cases, being preferred in headaches, different types of pains and general symptoms of cold indiscriminately. The second place was occupied by ibuprofen, 30.4%, very popular in the treatment of cold and headaches, followed by metamizole, 12.7%, and different associations of the three (10.3%). Symptoms that required more frequently this medication were rhinorrhoea and cough, significantly increased in urban areas (67%) *versus* rural areas (27%, $p = 0.002$), followed by headache and abdominal pain, equally found in both residence areas.

There is a general agreement that self-medication has benefits on individuals and community [12]. On the individual level, self-medication has an active role in people's own health care, especially in preventing or

relieving minor symptoms or conditions; it is convenient, since medical consultations will be reduced or avoided. On the community level, self-medication can save scarce medical resources from being wasted on minor conditions, can reduce absenteeism from work due to minor symptoms and could increase the availability of health care to populations living in rural or remote areas. However, one should keep in mind that self-medication has, in the same time, potential risks. On the individual level, incorrect diagnosis and therapy choice, and failure to recognize or report adverse drug reactions are the most redoubtable. On the community level, improper self-medication could result in an increase in drug-induced diseases and in wasteful public expenditure [12, 13].

Based on these observations it becomes obvious that preventing risks of self-medication should become the main concern of health professionals, as they are responsible for information, therapeutic advice and education of population. Whenever health professionals are prescribing drugs, they should give proper instructions for the patient to understand and make his own decisions. Given information should be at patient's comprehension level so that it will be helpful for them to understand its management. Proper health education should be given to the patients. By regularly adopting an educational attitude we can have an effect on large sectors of the population, on people who, in turn, may directly influence their friends and family. This aspect is of particular importance with respect to the self-medication of children by their parents or relatives [6, 13].

Conclusions

Self-medication is a widely-used practice and health professionals should make it safe by providing the people who are using it with sufficient knowledge about the main characteristics of the preferred drug: dose, treatment duration, side-effects; the lack of information can cause serious negative effects such as antibiotic resistance, skin problems, hypersensitivity and allergy.

Hence, for developing countries like Romania where the education status is poor, the risks of self-medication are higher. People do not have enough knowledge regarding risks associated with their self-medication so it is unsure whether to promote self-medication or not. We consider that holistic approach should be taken to prevent this problem, which includes proper awareness and education regarding self-medication and pharmaceutical products advertising.

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