

## Will you treat a cold on your own or seek help?

### Samodzielnie leczysz przeziębienie czy korzystasz z pomocy?

Magdalena Hartman, Paweł Lichtański, Barbara Duda-Raszewska<sup>1</sup>,  
Ewa Klimacka-Nawrot, Barbara Błońska-Fajfrowska

#### STRESZCZENIE

##### WSTĘP

Niniejsze badanie miało na celu określenie, jak często respondenci w zależności od wieku, płci i wykształcenia korzystają z pomocy lekarskiej, pytają o radę aptekarza, szukają porady rodziny i znajomych oraz czerpią z własnych doświadczeń podczas leczenia przeziębienia.

##### MATERIAŁY I METODY

W badaniu ankietowym wzięło udział 130 mieszkańców Śląska, 73 kobiety i 57 mężczyzn w wieku 19–65 lat, bez objawów przeziębienia.

##### WYNIKI I WNIOSKI

Ankietowani deklarowali najczęściej, że leczą przeziębienie samodzielnie, opierając się na wcześniej zdobytych doświadczeniach. Kobiety częściej niż mężczyźni zasięgały porady u aptekarza. Osoby młodsze częściej niż starsze kierowały się radami rodziny i znajomych. Im niższy był poziom wykształcenia ankietowanych, tym mniejsza była częstość zasięgnięcia porady u aptekarza oraz wśród rodziny i znajomych.

##### SŁOWA KLUCZOWE

przeziębienie, leczenie, samoleczenie, porada lekarza, pomoc aptekarza

#### ABSTRACT

##### INTRODUCTION

An analysis of the frequency with which persons seek doctor's or pharmacist's advice, turn to family or friends for help, or draw on their own experience while treating the common cold, taking into consideration their sex, age, and education, was the objective of this study.

Department of Basic Biomedical Science  
in Sosnowiec  
Silesian Medical University in Katowice  
<sup>1</sup>Internal Medicine Ward, Municipal Hospital  
in Piekary Śląskie

##### ADDRESS FOR CORRESPONDENCE:

Dr n. med. Magdalena Hartman  
Department of Basic Biomedical Science  
Silesian Medical University in Katowice  
Kasztanowa Street 3  
41-205 Sosnowiec, Poland  
phone: +48 32 269 98 30  
fax: +48 32 269 98 33  
e-mail: mhartman@sum.edu.pl

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**MATERIALS AND METHODS**

A survey was carried out in the Silesia Region (Poland). The respondents were 130 persons, including 73 women and 57 men aged 19–65 years, without cold symptoms.

**RESULTS AND CONCLUSIONS**

Most often, the respondents treated their colds on their own, based on their previous experiences. Women more frequently than men sought doctor's advice. Younger persons more often than older ones took family's and friends' advice. The lower the educational level, the lower the frequency with which pharmacist's as well as family's, and friends' advice was sought.

**KEY WORDS**

common cold, self-medication, seeking doctor's and pharmacist's advice

**INTRODUCTION**

According to The International Statistical Classification of Diseases and Related Health problems, the common cold belongs to the group of acute upper respiratory infections (J00-J06). It means an acute nose and throat inflammation (J00), including severe coryza of the nose, acute rhinitis, nasal cavity and throat inflammation of unspecified both etiology and infection, as well as acute and infectious nasal mucosa inflammation.

WHO emphasizes that a cold should be differentiated from chronic nasopharyngitis (J31.1), unspecified pharyngitis (J02.9), both acute (J02.-) and chronic (J31.2), unspecified nasal mucosa inflammation (J31.0), allergic (J30.1-J30.4), chronic (J31.0), and vasomotor (J30.0), as well as unspecified sore throat (J02.9), acute (J02.-) and chronic (J131.2) [1].

Such detailed information is not known outside medical circles, however, the term "cold" has been intuitively used by everyone, due to the fact that it is an ailment from which almost all of us sometimes suffer. Such cold syndromes as nasal congestion, watery catarrh, sneezing, scratchy throat, malaise, headache, and slight fever on average affect adults 2–4 times per year, while children catch it 8–9 times annually [2]. Rhinoviruses, responsible for 50% of colds, are the best known cold pathogens to produce the abovementioned symptoms [2,3,4]. Apart from over a hundred rhinovirus types and subtypes, colds may also be caused by coronaviruses, influenza viruses, parainfluenza, respiratory syncytial, adenoviruses, enteroviruses and many others [2,3].

It has been problematic, even for cutting-edge medicine, to find a cold vaccine, given the wide variety of viruses, their immunological diversity, and the fact that a cold etiology is not always possible to be established [4]. Therefore, common cold treatment is based on relieving the symptoms and not fighting the causes [2,4].

Generally, the disease is mild and self-limiting. A slight fever lasts about 3 days, sore throat and rhinitis about 7, while the cough ends in the second or third week from contracting the disease. Although the symptoms are annoying and render everyday functioning more difficult, they cause little damage to one's health. Sinusitis and middle ear infection, as bacterial complications, only develop in 1–2% of all colds [2]. Due to the fact that cold symptoms are not as severe as, for instance, those of influenza, ill persons most often try self-medication.

Such a tendency is reinforced by the omnipresent advertising of products relieving cold symptoms. For example, in the autumn of 2010, the leading pharmaceutical companies spent over 2 mln PLN on the individual TV promotion of Nurofen, Gripex or Rutinacea [5]. Advertising campaigns get more intensive as the cold incidence increases. The purpose is to make sure that each person feeling under the weather immediately buys products touted on television. A doctor's visit is usually a more difficult and less convenient option than taking a medicine which is, according to commercials, able to alleviate all the symptoms and is available over the counter. Direct access to medications is a particular incentive for people to try self-medication. The law concerning the sales and supply of medicines at non-pharmacy establishments included in the Journal of Laws of 2006 (Journal of Laws, no. 130 item 905) permits for many remedies for a cold to be purchased not only from a pharmacy, but also at super/hypermarkets, kiosks, at a herbalist's, at a petrol station, or other non-pharmacy establishments [6].

Depending on the experienced symptoms and health awareness, patients most often obtain non-steroidal anti-inflammatory medications, first-generation antihistamines, anti-cough drugs, expectorant ones, products loosening thick nasal mucous, "decongestants" (pseudoephedrine and phenylephrine), vitamin C, medicines causing vasoconstriction in the nasal passages, gargling medicines and lozenges [2].

One would not expect serious side-effects in the self-administration of such medications, however, in the

case of improper use they can cause toxic reactions. Elderly persons, or those affected by accompanying diseases, should approach self-medication in the case of a cold with particular carefulness. Parents should pay close attention to the medications they cure their children with. For instance, it is not recommended to give very young persons products including acetylsalicylic acid due to the possibility of developing Reye's syndrome [7].

The list of contraindications for all anti-inflammatory non-steroidal medications is very long and comprises, inter alia, hypersensitivity to a given product, ulcers in the stomach and duodenum, some cardiovascular diseases, hepatic and renal failure or impaired function of the organs, aspirin-induced asthma, as well as ulcerative colitis [8]. One should not be utterly uncritical about other types of medications applied in curing the common cold, since all of them can produce adverse side effects, for example, pseudoephedrine and phenylephrine can cause headaches, increased blood pressure, tachycardia, sleeplessness; first-generation antihistamines – sedation, drowsiness and negative well-being; topical decongestants – rhinitis medicamentosa [9].

The question is whether one's health awareness and the knowledge of the use of medications for a cold, as well as their side effects are sufficient for self-medication, and above all, whether the symptoms experienced are not a mere cold but a more serious disease requiring professional supervision.

Analysis of the frequency with which persons seek doctor's or pharmacist's advice, turn to family or friends for help, or draw on their own experience while treating the common cold, taking into consideration the sex, age, and education of the subjects is the objective of this study.

## MATERIALS AND METHODS

One hundred and thirty respondents from the Silesian Voivodeship, Poland answered questions on how often they sought doctor's, pharmacist's, family's, or friends' advice, and how frequently they relied on self-medication for the common cold exclusively on their own experience.

The method of random selection of respondents was used. The subjects were 73 women and 57 men aged 19–65 years, without cold symptoms. Seventy persons fell within the age range 19–39 years, and the remaining 60 within 40–65 years. Higher education was declared by 31 individuals, secondary education by 71, while vocational and primary by 28. A chi-square test was used for statistical analysis, and  $\alpha = 0.05$  was regarded statistically significant.

## RESULTS

During the common cold, 66.9% of respondents often or very often tried self-medication and drew on their previous experience, which was the most popular way of dealing with this health problem. The percentage of persons frequently or very frequently accepting all the other sources of assistance was about 30%. Doctor's advice was sought by 34.6%, that of a pharmacist by 30%, while family help and friends' advice were chosen by 33.8% of the respondents (Fig. 1).

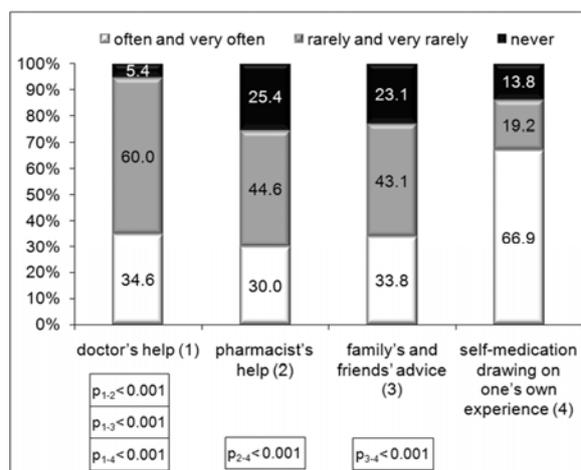
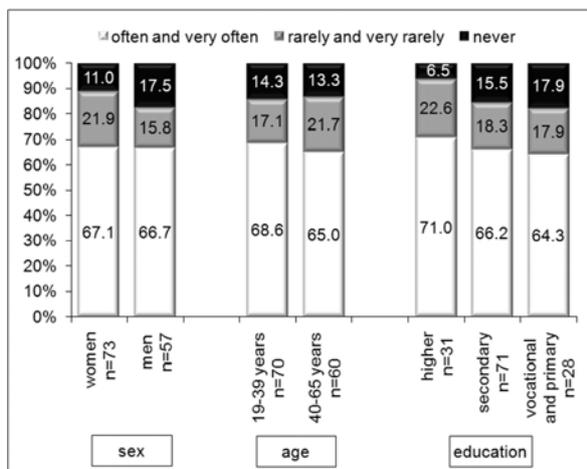


Fig. 1. Percentage of respondents declaring choice of various forms of assistance in treating common cold (n = 130).

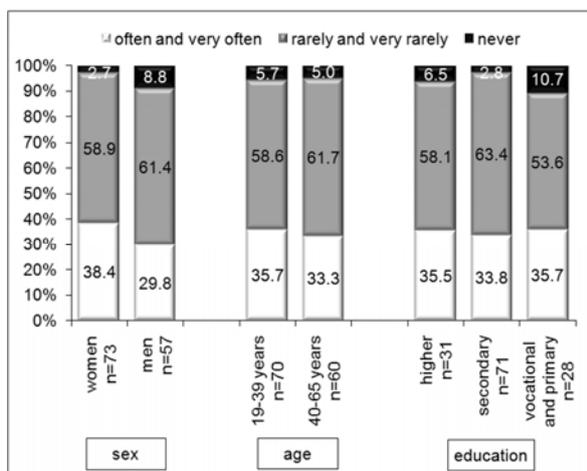
Ryc. 1. Odsetek respondentów deklarujących korzystanie z różnych form pomocy w leczeniu przeziębienia (n = 130).

With respect to the influence of sex, age, and education on the frequency of self-medication in the case of a cold, the results were as follows: 67.1% of women and 66.7% of men often or very often preferred drawing on their own experience, as did 68.6% of those aged 19–39 years and 65% of the subjects within the age range of 40 to 65 years. Among the respondents, 71% of those with higher education often or very often treated their colds on their own, just like 66.2% of those who had secondary education, and 64.3% of persons with vocational and primary education (Fig. 2). During cold treatment, frequent or very frequent seeking of professional supervision was reported by 38.4% of women and 29.8% of men, 35.7% of subjects aged 19–39 years and 33.3% of the older persons (40–65 years). Taking education into account, the percentage was similar, 35.5% of respondents holding a higher education diploma, 33.8% of those with secondary education, and finally 35.7% of subjects with vocational and primary education admitted having often or very often sought doctor's help. The answers of the respondents, who differed in sex, age, and education, did not show statistically significant

differences with respect to the frequency of seeking medical advice (Fig. 3).



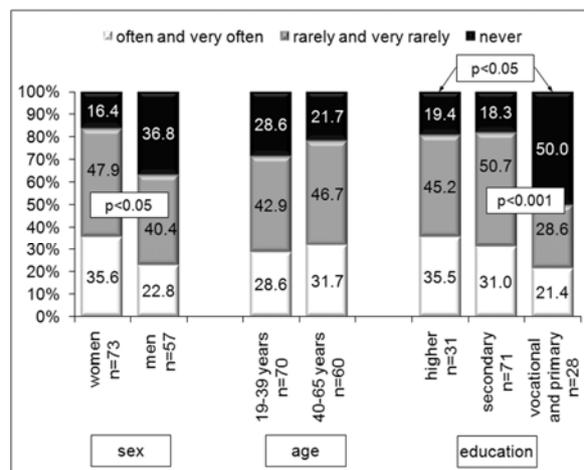
**Fig. 2.** Declared frequency of self-medication based on one's own experience, with respect to sex, age, and education of respondents (n = 130).  
**Ryc. 2.** Deklarowana częstość samodzielnego leczenia przeziębienia na podstawie własnych doświadczeń, z uwzględnieniem płci, wieku i wykształcenia ankietowanych (n = 130).



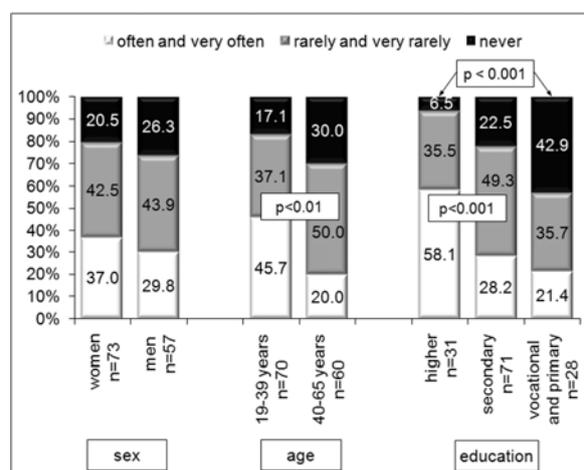
**Fig. 3.** Declared frequency with which subjects sought doctor's advice during a cold, taking into consideration age, sex, and education (n = 130).  
**Ryc. 3.** Deklarowana częstość zasięgnięcia porad lekarza w trakcie leczenia przeziębienia, z uwzględnieniem płci, wieku i wykształcenia ankietowanych (n = 130).

Turning to a doctor for help was more popular amongst women than men ( $p < 0.05$ ). Frequently or very frequently, a visit to a doctor was the source of information on how to treat a cold for 35.6% of women and 22.8% of men. Within the group of subjects aged 19–39 years, 28.6% frequently or very frequently discussed their health problems with a pharmacist, hoping to receive useful information, as compared to 31.7% of patients belonging to the other age range. The respondents with a vocational or primary educa-

tion level sought pharmacist's advice more rarely than those who achieved secondary education ( $p < 0.001$ ) and subjects with a tertiary education level ( $p < 0.05$ ). Twenty-one percent of persons with vocational and primary education, 31% of individuals who completed secondary education, and 35.5% of highly educated respondents declared having frequently or very frequently turned to a pharmacist for help while suffering from a cold (Fig. 4).



**Fig. 4.** Declared frequency of seeking pharmacist's advice during a cold, with respect to sex, age, and education of respondents (n = 130).  
**Ryc. 4.** Deklarowana częstość zasięgnięcia porad aptekarza w trakcie leczenia przeziębienia, z uwzględnieniem płci, wieku i wykształcenia ankietowanych (n = 130).



**Fig. 5.** Declared frequency with which respondents sought family's and friends' help during a cold, taking into consideration age, sex, and education (n = 130).  
**Ryc. 5.** Deklarowana częstość zasięgnięcia porad rodziny i znajomych w trakcie leczenia przeziębienia, z uwzględnieniem płci, wieku i wykształcenia ankietowanych (n = 130).

The family acted as advisors, often or very often, for 37% of women and 29.8% of men. The younger subjects were more inclined than the older to ask their

family and friends for assistance ( $p < 0.01$ ). This way of coping with the common cold was often or very often chosen by 45% of persons aged 19–39 years and 20% of subjects within 40 and 65 years of age. The respondents with a higher education certificate were considerably more willing to talk to their family and friends than subjects with secondary ( $p < 0.001$ ) and vocational or primary education ( $p < 0.001$ ). Frequently or very frequently, family and friends were the source of advice for 58.1% of persons with higher education, 28.2% of those with secondary, and 21.4% of subjects who had vocational and primary education (Fig. 5).

## DISCUSSION

Due to the ever-growing health expenses on the aging societies in Europe, European Union institutions have acknowledged the self-medication phenomenon as a significant element of long-term health care. Certain acute conditions, including the common cold, qualify as diseases possible to be treated via self-medication thanks to the good knowledge of one's body, experiences gained during previous infections, information on the medication obtained from a pharmacist and the package insert provided with medicine [10].

Our results were consistent with the tendencies across Europe regarding self-medication. From among the four possible ways of treating a cold, the respondents most frequently preferred self-medication based on their own experiences. Often and very often, self-medication was chosen by as many as 66.9% of respondents, which can be compared to 34.6% of those polled who sought doctor's advice, and 33.8% – family's and friends' advice. The TNS OBOP report "Polish drug purchasing habits" presents a similar tendency among Poles in choosing the brand of an over the counter medicine. Fifty-nine percent of their respondents declared that they base their OTC shopping decisions on personal experiences, while a markedly smaller share sought pharmacist's advice (37%), doctor's advice (27%), and family's and friends' advice (20%) [11].

Fendrick et al. [12] in studies designed to estimate the costs in the United States of America in connection with the occurrence of colds and their complications, received information that 27.8% of people used various forms of medical treatment for colds in order to treat their own or their children's colds, 4.6% of them called their doctor, 22.0% saw their doctor at his or her office, and 1.2% visited the nearest medical emergency department. It was also noted that 69.1% of respondents did not seek or use medical advice and relied on OTC products, but it is not known whether these drugs were bought based on their own experi-

ence, under the influence of family and friends, or after consultation with a pharmacist [12]. Despite the differences in the scope and methodology of our study and other studies, a considerable level of self-reliance among people in the approach to common cold treatment can be noticed. The phenomenon is thought to be positive as it allows for considerable financial resources to be spent, for instance, on specialist treatment [10,13].

However, if a person self-administering a drug is insufficiently informed, self-medication may lead to serious complications. General practitioners, pharmacologists, and toxicologists, who have the most frequent contact with the "victims" of lack of knowledge, advertising, and easy access to OTC medications, warn against irresponsible self-medication [14,15,16,17]. Adverse reactions to medications which should be avoided due to coexisting diseases, interactions with other medicines, and drug poisoning are the most common problems associated with OTC self-medication [18].

Treatment based on one's own experience and based on the advice of family and friends can cause serious problems when prescription drugs, including antibiotics, are consumed without medical supervision. This happens because people store prescription medications that they have left from their previous illness and then take them or share them with family and friends when they think they might be helpful [19].

This problem is noticeable in Europe and around the world, therefore numerous cooperating institutions are trying to resolve the issue e.g. under the aegis of the ECDC (European Centre for Disease Prevention and Control) in Europe [20] or the CDC (Centers for Disease Control and Prevention) in the U.S. [21]. Another issue is the avoidance of seeing a doctor in serious illnesses which cannot be cured by means of OTC medications, which causes a delay in undergoing proper therapy and leads to disease aggravation [18]. In cold self-medication, it is vital to notice the moment when doctor's help becomes indispensable. An over three-day fever, excess nasal mucus lasting for more than 10 days, purulent eye discharge, ear and sinus pain, accompanied by a sore throat, are symptoms suggesting bacterial infection which requires antibiotic therapy under doctor's supervision [2].

Self-medication development creates new responsibilities for pharmacists. They are to provide help and advice on OTC products as well as inform when a doctor's appointment is needed. Proper pharmacists' preparation is particularly important in the case of women, who more frequently than men ( $p < 0.05$ ) turn to them for help. In accordance with the traditional division of roles in society, females are the ones responsible for taking care of family health. Probably, that is why it is women who more often seek pharma-

cist's help out of concern for their and their families' health.

It is hardly surprising that younger persons more often than older individuals relied on family's and friends' advice during cold treatment. All the respondents were at least 18 years old, however, a large share of those belonging to the younger group still live with their parents. Parents are typically the first to react and to try to help their children. Their support and experience are deemed important and valuable, even in the case of treating the common cold. Better educated persons more often sought pharmacist's advice as well as that of their families and friends for cold treatment.

The reasons can be that people with higher education usually have a job and while suffering from a cold they make an attempt at treating it successfully on their own, in order to prevent cold associated ailments from forcing them to stop working and consult a doctor. In such cases, pharmacist's professional advice comes in very handy. Well-educated persons are better able to understand and follow pharmacist's instructions, therefore, they are not opposed to getting this kind of help.

When seeking help concerning health problems, most frequently we ask those for advice whom we expect to be able to provide it. For better educated persons it is easier to find members of family or someone among friends who deal with health matters by profession and will come to the rescue when cold symptoms develop. Less-educated individuals are not so often in such a comfortable situation. This is one of the possible explanations for the differences in the frequency of seeking family's and friends' advice during a cold among persons representing different educational levels.

## CONCLUSIONS

1. Most often, respondents treated their colds on their own, based on their previous experience.
2. Women more frequently than men seek doctor's advice.
3. Younger persons more often than older ones take families' and friends' advice.
4. The lower the educational level, the lower the frequency with which pharmacist's, family's and friends' advice is sought.

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