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A description of patients presenting with minor illness in community pharmacies in southern Chile

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Abstract

Objective To describe the characteristics of patients presenting with minor illness in community pharmacies in southern Chile.

Setting The study was carried out in three community pharmacies belonging to a major chain in the south of Chile, during eight consecutive days in each pharmacy between June and July 2003.

Method A questionnaire was designed and completed, by a pharmacy student, who observed patients suffering from any of the eight symptoms or conditions of nasal congestion, cough, dysmenorrhoea, head lice, diarrhoea, constipation, heartburn and acne, attending the sample community pharmacies during the observation period.

Key findings A total of 678 presentations was registered, the patients were mainly female (64.9%) and adults (68.8%). In almost half (46.2%) of the presentations, the patients sought help for the symptom of cough. The sex of the patients was associated with the condition presented, but not the kind of attention sought. Females, more frequently than males (44.8% versus 32.4%), came to the pharmacy on behalf of another person. In a majority of the consultations (57.5%), the patient sought a recommendation on how to deal with his/her health problem, rather than asking for a product by name. The pharmacist carried out the service personally in only 2.4% of the cases and the patients were referred to a physician in less than 1% of the cases. The reason most frequently indicated (38.2%) by the individuals who sought help for their health problems was prompt attention.

Conclusion An average of 28 patients daily sought help for one of the target conditions and in almost half of the cases this was for the symptom of cough. A cause of concern is the very low frequencies with which patients were attended to by the pharmacist or referred to a physician, leaving the choice of treatment in the hands of the pharmacy assistant or the patient.

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Introduction

The role of the community pharmacist in Chile, as well as in the rest of the world, has been changing over the last few decades, with the introduction of more patient-oriented activities such as pharmaceutical care.[1] The traditional task of attending to patients in search of advice, for what they perceive as minor illness, has been supported by regulatory changes in countries such as the UK. The benefits for patients and the public health system have been demonstrated in recent studies.[2,3] In Chile, the need for this kind of role is probably greater than in more developed countries, because of important deficiencies in the public primary care health system due to lack of resources and the low income level of the majority of the population.

To illustrate the differences between Chile and the UK, in 2001 the per capita government expenditure on health was 348 and 1634 international dollars respectively, and the gross domestic product (GDP) per capita 11265 and 26273 international dollars respectively.[4] Moreover, the income distribution is more unequal in Chile, (where the income share held by the lowest 20% was 3.3% in 2000), than in European countries like the UK and Sweden, (where the corresponding figures were 6.1% (1999) and 9.1% (2000) respectively[5]). Consequently, many patients, not adequately dealt with by public primary care facilities, (for example experiencing long waiting times or incomplete supply of prescribed medication), and who cannot afford private medical care, turn to community pharmacies for help. However, several characteristics of community pharmacies, which are all privately owned, limit the provision of optimal care. Pharmacists are limited in their ability

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to make adequate recommendations partly because they are absorbed in administrative tasks, and partly because drugs classified as over-the-counter (OTC) are not available for self-selection by the patient, but have to be asked for at the counter. They are the only medicines for which public advertising is allowed. They include acetylsalicylic acid, ambroxol, benzoyl peroxide (5% strength) for topical application, bromhexine, carbocysteine, domperidone (10 mg strength), metamizole, paracetamol alone and in combination with mepyramine and pamabrom, ranitidine (75 mg strength), famotidine (10 mg strength), chlorphenamine in combination with analgesics/antipyretics and caffeine, ibuprofen (200 mg strength), naproxen (275 mg strength), salicylic acid (5% strength) for topical application, antacids, most preparations for the treatment of head lice and some vitamins. All other drugs, according to current regulations, need a medical prescription to be dispensed. These include all nasal decongestants for topical and systemic use (antihistamines, with the exception indicated above, and sympathomimetics), all cough suppressants, contact laxatives, antidiarrhoeals (e.g. loperamide and domperidone), ranitidine, famotidine, ibuprofen and naproxen in strengths above those indicated for OTC use, several of which are classified as OTC in European countries. On the other hand, it is a known fact, according to health authorities, that many products not classified as OTC, particularly those belonging to groups such as anti-inflammatory drugs and cough and cold remedies are being sold without a prescription.

Another fact that will influence the behaviour of patients is that the cost of all drugs obtained in the community pharmacy without a prescription (and pharmacists have no prescription right) has to be covered by the patient. This is in contrast to the situation in the public healthcare system where most drugs included in the formulary are free.

There have been very few studies carried out to date that have described the contribution of Chilean community pharmacies to the primary healthcare system.[6–8] This study was undertaken, in order to systematically describe the reasons why patients suffering from perceived minor illness presented in community pharmacies.

Methods

Three pharmacies belonging to a major chain and located in each of the three major cities in southern Chile, were chosen for the study. They were selected because of their proximity to the Universidad Austral de Chile in Valdivia, as all data were collected by a pharmacy student, travelling to each location.

A data collection form was designed and completed for all patients presenting at the pharmacy counter, suffering from any of eight symptoms or conditions considered as minor, and not bringing a prescription. Subjects estimated to be under 15 years were excluded. Data collection periods were between 10.00 and 12.30 and between 14.00 and 19.00 for eight consecutive days (these pharmacies are open seven days a week), between June and July 2003. The length of the study period was based on the estimated total number of daily presentations for the selected conditions (based on a pilot study) and statistical considerations. Selected conditions were those easily recognised by the patient, presumed to occur relatively frequently and generally responding to treatment with an OTC drug and/or non-pharmacological measures.

The eight target conditions were nasal congestion, cough, dysmenorrhoea, head lice, diarrhoea, constipation, heartburn and acne. Data was collected by a pharmacy student, positioned in a way that permitted observation of, and was within hearing of, the person attending. The term consultation has not been used as we were collecting information on both direct requests for products by brand name and requests for advice on how to deal with a health problem. The following information was recorded: sex, age group, condition suffered, product dispensed (if any), type of interaction (patient asking for a product by brand name or a recommendation), patient category (person attended or other person), physician referral (direct, defined as the advice to seek immediate medical help, or conditional, where the patient is advised to seek further help if the symptoms do not clear within a specific time), number of persons present in the pharmacy at the time of the presentation (pharmacists, assistants and clients) and attention given by the pharmacist, assistant or both. At the end, the patient (or person presenting) was asked by the student to indicate the most important reason for seeking help for his (her) health problem in the pharmacy (rapid attention, less cost or perception that medical attention was not necessary). The pharmacy student also established, when the customer asked directly for a product by name, the identity of the intended final consumer – the person visiting the pharmacy or another person. When advice was requested, this information was identifiable from the conversation. No further explanation was given to the customer nor was any informed consent obtained.

Biases in data collection were minimised by the passive data collection method. In accordance with this principle, the age of the person attending was estimated by observation and classified into one of three groups: adolescents (15–24 years, adults (25–64 years) and older people (more than 65 years). Data were analysed in EPI-INFO 2000, to determine frequencies and association between variables by the chi-squared test. In some cases, the significance of differences between proportions (percentages) was analysed.[9]

Results

The three pharmacies were similar with respect to number of pharmacists (2), number of counter assistants (5–6), other staff (1–2 for administrative tasks) and location (busy downtown). A total of 678 presentations was recorded, equivalent to an average of 28 persons per pharmacy per day, suffering from a target minor illness, and not having a medical prescription. The only statistically significant difference ($P < 0.05$) found between the pharmacies was in relation to the highest (254) and lowest (199) number of presentations. Persons presenting were mainly female (64.9%), adult (68.8%).

In almost half (46.2%) of the presentations, the patients sought help at the pharmacy for the symptom of cough. Other symptoms, presented in decreasing order of frequency were

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heartburn, nasal congestion, constipation, diarrhoea, head lice, dysmenorrhoea, and acne (Table 1).

Females sought attention to a greater extent than the average for head lice, constipation, dysmenorrhoea, diarrhoea and acne, while for the males, heartburn and nasal congestion were the conditions most frequently presented, besides cough (Table 1).

The distribution of age groups was significantly different ($P<0.01$) from the general population in each of the locations (Table 2).[10] In general, fewer adolescents and more old people came to the pharmacy than would be expected. Those older than 65 years more frequently sought attention for constipation and heartburn and less frequently than adults for cough. Adolescents most frequently suffered from acne and dysmenorrhoea. However, the low frequencies of these conditions should be considered when evaluating the significance of the data (Table 1). No influence was found of sex on the type of interaction (asking for a recommendation or a product by name) or the most important reason for seeking help in the pharmacy, but females, more frequently than males (44.8% versus 32.4%, $P<0.05$) came to the pharmacy on behalf of another person.

In a majority of the presentations (57.5%, $P<0.01$), the patient sought a recommendation as to how to deal with his/her health problem, rather than asking for a product by brand name. The conditions with which this was most associated were head lice, acne, cough and nasal congestion. Asking for a recommendation or product for another person occurred in 40.4% ($P<0.01$) of the presentations and was most frequently for the conditions of head lice and cough (Table 3).

The pharmacist attended to patients personally in only 2.4% of the cases, most frequently for nasal congestion. The patients were referred to a physician in fewer than 1% of the presentations (Table 3). The likelihood of the pharmacist attending to the patient was determined primarily by the number of counter assistants present, ranging from a maximum of 17.6% of cases when only one assistant was present to none when five or six assistants were present in the pharmacy.

The reason most frequently indicated (38.2%, $P<0.05$) by the person seeking help for his/her health problem in the pharmacy, compared to alternatives like the public or private primary healthcare systems, was rapid attention. The other reasons (lower cost and perception that medical attention was not necessary) were less frequently indicated as most important.

The different ATC (Anatomical Therapeutic Chemical Classification Index established by the World Health Organization (WHO) Collaborating Centre for Drug Statistics Methodology) groups dispensed for the conditions included in the study are presented in Table 4. As indicated in the introduction, several of these, such as sympathomimetic nasal decongestants for systemic use, cough suppressants, contact laxatives, intestinal disinfectants and antipropulsives and some non-steroidal anti-inflammatory drugs are prescription-only medicines.

Discussion

The present study was undertaken with the objective of describing the way patients with perceived minor illness

Table 1 Distribution of presentations by sex and age for each of the eligible conditions

Condition	Total n (% total)	Female n (% total condition)	Adolescent (A1) n (% total condition)	Adult (A2) n (% total condition)	Old (A3) n (% total condition)	Statistical significance (Age)
Cough	313 (46.2)	206 (65.8)	44 (14.1)	232 (74.1)	37 (11.8)	(A2)–(A3) $P < 0.05$
Heartburn	116 (17.1)	56 (48.3)	7 (6.0)	73 (62.9)	36 (31.0)	(A1)–(A3) $P < 0.01$
Nasal congestion	105 (15.5)	59 (56.2)	15 (14.3)	77 (73.3)	13 (12.4)	(A2)–(A3) $P < 0.01$
Constipation	64 (9.4)	54 (84.4)	9 (14.1)	33 (51.6)	22 (34.4)	NS
Diarrhoea	26 (3.8)	20 (76.9)	4 (15.4)	18 (69.2)	4 (15.4)	(A2)–(A3) $P < 0.01$
Head lice	26 (3.8)	23 (88.5)	5 (19.2)	19 (73.1)	2 (7.7)	NA
Dysmenorrhoea	21 (3.1)	17 (81.0)	8 (38.1)	12 (57.1)	1 (4.8)	NA
Acne	7 (1.0)	5 (71.4)	4 (57.1)	3 (42.9)	0	NA
Total	678 (100)	440 (64.9)	96 (14.2)	467 (68.8)	115 (17.0)	NA

NS, not statistically significant; NA, not applicable, because of the low frequencies of these conditions.

Table 2 Age-distribution of the population studied and the general population of the locations

Location (n)	Total population >15 years	Percentage of total population age 15–24 years	Percentage of total population age 25–64 years	Percentage of total population age >65 years	Percentage of population studied age 15–24 years	Percentage of population studied age 25–64 years	Percentage of total population age >65 years
Valdivia (199) 1	106.509	24.8	64.3	10.9	17.1	66.3	16.6
Osorno (254)	108.674	22.9	66.0	11.1	13.0	75.6	11.4
Puerto Montt (225)	128.583	22.8	68.9	8.3	12.9	63.6	23.6

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Table 3 Relationship between condition presented, type of interaction, patient category, person attending and physician referral

Condition	Recommendation n (% total condition)	Statistical significance of recommendation versus asking for product	Other person than patient attended n (% total condition)	Statistical significance of other person versus patient attended	Pharmacist attending n (% total condition)	Physician referral n (% total condition)
Cough	208 (66.5)	$P < 0.01$	184 (58.8)	$P < 0.01$	7 (2.2)	2 (0.6)
Heartburn	48 (41.4)	$P < 0.05$	5 (4.3)	$P < 0.01$	2 (1.7)	0
Nasal congestion	64 (61.0)	$P < 0.05$	34 (32.4)	$P < 0.01$	7 (6.7)	2 (2.0)
Constipation	21 (32.8)	$P < 0.01$	9 (14.1)	$P < 0.01$	0	1 (1.6)
Diarrhoea	11 (42.3)	NA	9 (34.6)	NA	0	0
Dysmenorrhoea	12 (57.1)	NA	5 (23.8)	NA	0	0
Head lice	21 (80.8)	NA	25 (96.2)	NA	0	0
Acne	5 (71.4)	NA	3 (42.9)	NA	0	1 (14.3)
Total	390 (57.5)		274 (40.4)		16 (204)	6 (0.9)

NA, not applicable, because of the low frequencies of these conditions.

presented in a small convenience sample of community pharmacies in southern Chile. The results indicate that these presentations occur frequently although the distribution between the different conditions is unequal. Patients sought a recommendation more often than asking directly for a product by name but the pharmacist was personally involved in less than 3% of the presentations.

The three locations were chosen mainly because of their proximity to the Universidad Austral de Chile in Valdivia and being major population centres. The results of this study cannot necessarily be generalised to other regions of the country that have different demographic and climatic characteristics. Moreover, the limited time span of the study, carried out during the winter months, undoubtedly influenced the frequencies of presentation of the different conditions.

The data collection form was relatively short and easily completed. We believe all presentations of the target conditions were recorded. As the methodology was mainly observational, no ethical approval was necessary under current university regulations.

A large number of people were managed daily in the pharmacies in the context of this study. However, we do not know to what extent this has reduced the workload of the public primary care health system, or resolved the health problems of the patients, aspects which need further study. In general, no important differences were found between the three pharmacies, and the results will be discussed as a whole.

The high percentage of females attending is in accordance with the results of other studies,[2,11] and the role of women as carers. This role is also reflected in the higher frequency with which females presented to the pharmacy on behalf of other persons, and it is thought that they were seeking help especially for their children. This proxy consultation behaviour is an important characteristic of the presentation of health problems in community pharmacy not accepted in other care settings. It is probably perceived by patients as an advantage, as sick children or other persons do not need to present personally, but complicates the task of pharmacists and pharmacy assistants in helping those patients as it is not possible to observe symptoms or ask questions directly. The conditions most frequently presented on behalf of another person, head lice and cough, affect children to an important extent, especially, in the case of cough, during the winter months, when this study was carried out.

The distribution across age groups is similar to that found in other studies.[11] Young persons generally are healthier and consume fewer drugs, and the elderly, with more complex health problems, tend to use more prescription medicines. The high frequency of presentation of cough is similar to research from New Zealand,[12] although in other settings the frequency has been found to be lower.[2] This difference may be attributable to seasonal factors. Likewise the relatively high frequency of nasal congestion as well as the low frequency of diarrhoea could be explained by the fact that the study was carried out during the winter season. The higher frequency of presentation of constipation in the elderly and of acne and dysmenorrhoea in adolescents is in accordance with the expected relative distributions between age groups of these conditions, based on their characteristics.

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Table 4 Groups of products dispensed for each condition presenting

Condition	Products dispensed (ATC classification group)
Cough	Expectorants excluding combinations with cough suppressants (R05C); cough suppressants excluding combinations with expectorants (R05D)
Heartburn	Antiacids (A02A)
Nasal congestion	Nasal descongestants for systemic use (R01B); sympathomimetics (R01BA)
Constipation	Stool softeners, emolients (A06AA); contact laxatives (A06AB); bulk formers (A06AC); osmotically active laxatives (A06AD); enemas (A06AG)
Diarrhoea	Intestinal disinfectants (A07A); intestinal adsorbents (A07B); antipropulsives (A07D); antidiarrhoeic microorganisms (A07F)
Dysmenorrhoea	Non-steroidal anti-inflammatory drugs (M01A)
Head lice	Ectoparasiticides including escabiocides (P03A)
Acne	Anti-acne preparations for topical use (D10A)

The extremely unequal distribution of frequencies found between conditions constitutes a general limitation of this study. This situation, to a certain degree predictable from the pilot study, resulted in very low frequencies of some of the conditions, limiting the conclusions which could be drawn.

The finding that patients sought a recommendation more often than asking for a product by name, indicates confidence in the advice given by pharmacy personnel as how to deal with health problems. The high percentages of requests for advice on head lice and acne could be interpreted by the patients perceiving these conditions as complex and feeling uneasy about dealing with them on their own. This could contrast with a clinical analysis which would probably consider the treatment of cough and nasal congestion as potentially more risky, especially in patient groups such as young children and hypertensive individuals. The finding, already discussed, that consultation for cough is frequently on behalf of another person, usually a child, adds complexity to the situation. Diarrhoea, which is also a condition with a relatively high risk potential, showed a low frequency of recommendations, indicating that the patients did not perceive it as such.

The very low frequency with which pharmacists attended to the patients, is in contrast to the situation elsewhere,[12,13] where the involvement of the pharmacist has been shown to be more important. This finding can be related to the community pharmacy working environment in Chile, where it is unusual for more than one pharmacist to be present at any one time in the pharmacy and there is a high work load, especially of administrative tasks. When a sufficient number of assistants are present in the pharmacy to attend all patients, pharmacists are generally dedicated to other activities. However, these are mainly managerial, as all medicines are dispensed in original packages so that dispensing activities like those carried out in parts of Europe, north America and Australia are not carried out in Chilean community pharmacies.[14,15] This situation constitutes a potential risk that minor, and possibly major, health problems are not adequately dealt with, as pharmacy assistants are not required to have any formal education on health problems and their treatment. Thus, it is of primary importance that assistants are adequately trained in the pharmacy and instructed to ask the pharmacist whenever in doubt.

The very low frequency of referral to a physician could be interpreted in different ways. One is the direct benefit to the assistant when a product is sold, as generally his/her salary has a high sale-related percentage. It is also probable that patients frequently expect and will often insist that a product should be sold to them when they turn to the pharmacy for a health problem, since this an important function of the pharmacy, easily recognisable by the public. The characterisation of this kind of pharmacy customer attitude has not been addressed in this study, and needs further work. The indication by patients that the rapid attention is the most important reason for seeking help in the community pharmacy is in accordance with the commercial characteristics of these establishments in Chile. As indicated previously in the public healthcare system, resources are scarce, resulting in long waiting times.

The descriptions of ATC groups dispensed indicate that prescription-only medicines were sometimes sold over the counter to patients without a prescription and without the pharmacist being involved. Definable as self-medication, this is a common problem in Latin American countries, attributed to difficult access to appropriate medical care.[16] The restrictive OTC status authorisation policy applied by the Chilean health authorities has been defended by the argument that the relatively low educational level of the population, compared to that of more developed countries, constitutes a limitation to the capacity to appropriately evaluate a health problem and select a product for its treatment. However, to protect patients from the risks of use of drugs not indicated or supervised by a health professional, additional measures are needed, such as an adequate enforcement of regulations. The possibility of introducing a pharmacist prescription product category should be considered, and pharmacist education equivalently enhanced.

The predominantly commercial characteristics of Chilean pharmacies, responding to the demands of patients, together with the deficiencies in the public health system mentioned, are factors contributing to the present situation, inherent in the socio-economic and political system of Chile, which will probably persist well into the future.

Conclusions

The results of this study indicate that Chilean community pharmacies play an important role in treating minor health problems in the population without the intervention of a physician. Patients in this study more frequently asked for a recommendation than for a product by name, indicating confidence in pharmacy personnel. However, the very low

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degree to which pharmacists attend the patients and hence make the recommendations, gives rise to concern, especially when considering some of the therapeutic groups recommended. There is a need for pharmacists to delegate administrative tasks, in order that they can spend more time with patients, orienting and educating them about health problems and their treatment.

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