

What do Brazilian community pharmacists know about self-medication for minor illnesses? A pilot study in the northeast of Brazil

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ABSTRACT

The benefits of self-medication are undeniable and include a decrease in the number of medical visits. In this work, among other objectives, it sought to describe the knowledge of a group of community pharmacists about minor illness and self-medication. This study was quantitative and qualitative, and took place between June and August 2012 in two groups of chain community pharmacies. All community pharmacists were interviewed face-to-face. Thirty-five community pharmacist completed the interview. Eighty-eight percent of the respondents were women and were aged above 25 years. A total of 88.8% said that they knew the definition of minor illness. Pharmacists that having studied management of minor illness as an undergraduate from private universities had more exposure to minor illness manager subject ($p = 0.0043$). Regarding the definition of minor illness, pharmacists cited specific parameters, such as duration of disease, and treatment or possible pharmacist intervention for symptoms, which showed a way to distinguish a minor symptom from a chronic disease. Pharmacists included detailed comments on particular aspects of the self-medication practice or highlighted medicine-specific characteristics. Findings indicated that community pharmacists have poor knowledge about minor illness that could explain the passive attitudes towards self-medication.

INTRODUCTION

According to the literature, lack of knowledge throughout the population about the effects of non-prescription medicines allows for inappropriate selection of medications by patients as well as duplicate therapy, overdose, and other undesirable effects (Hughes *et al.*, 2002; NCPIE, 2003; Sallam *et al.*, 2009; Cuzzolin and Benoni, 2010; Eickhoff *et al.*, 2012). For these reasons, as non-prescription medicines contain potent active ingredients, they must be selected, used, and monitored with the same degree of care as

with prescribed medicines (Eickhoff *et al.*, 2012). However, the benefits of self-medication with non-prescription medicines are undeniable, and include a decrease in the number of medical visits per year, increased patient autonomy, and reduced costs within the healthcare system (Hughes *et al.*, 2001; Brass *et al.*, 2001).

The practice of self-medication arises when a patient perceives their clinical condition as a minor illness (Sallam *et al.*, 2009), as well as the absence of health risks associated with non-prescription medicines (Covington, 2006). For this reason, the World Health Organization (WHO, 1998) suggests that responsible self-medication is a key parameter for self-care. However, studies claim that the benefits of self-medication are maximized when pharmacists apply their clinical skills, since the pharmacy is often the first place that patients seek for information about medicines (Benrimoj *et al.*, 2008; Wilbur *et al.*, 2010; Cuzzolin and Benoni, 2010; Major and Vincze, 2010; Major and Vincze, 2010).

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In practice, the pharmacist must be encouraged to ask patients about the characteristics of their complaints when dispensing medicines (Cuzzolin and Benoni, 2010). Moreover, the pharmacist assesses complaints and indicates drugs for treatment of health problems (Cuzzolin and Benoni, 2010; Sallam *et al.*, 2009; Major and Vincze, 2010; McConaha *et al.*, 2013). The ability of pharmacists to effectively persuade patients to make appropriate choices is dependent upon how well they can help the patient understand and accept their diagnoses, the necessity for therapeutic processes, and on how well the patient can remember the advice and recommendations of the doctor or pharmacist (Major and Vincze, 2010).

Alternatively, community pharmacies in Latin America, especially in Brazil, have professionals without any specific training in health care that guide patients through the selection and use of medicines (Kroeger *et al.*, 2001; Turner *et al.*, 2003; Bastos and Caetano, 2010). Despite this situation, patients have insufficient knowledge of medicines, and therefore, pharmacists must meet this social need. According to Bastos and Caetano (2010), there is a gap between recognition and concrete attitudes of pharmacist activities within the community pharmacy.

In Brazil, with the increasing presence of pharmacists in private pharmacies, the demand for counselling (mainly for non-prescription drugs) has grown in recent years (Araújo-Júnior and Vicentini, 2007; Andrade *et al.*, 2012; Galato *et al.*, 2012). However, there are no national statistics on the proportion of pharmacies that provide cognitive services (de Castro and Correr, 2007). Furthermore, most Schools of Pharmacy in Brazil are yet to implement clinical skills in their curriculum, despite the National Guidelines for Undergraduate Education in Pharmacy (Brazil, 2002) requirement to include formal training as an integral part of the pharmacy curriculum (Mesquita *et al.*, 2010).

In Brazil, there are few studies focused on the perception of the pharmacist about the use of non-prescription medicines for management of minor illness, joint self-medication. The objective of this study is to describe the knowledge of a group of community pharmacists about minor illness and self-medication.

METHODS

Study design

This study was quantitative (cross sectional) and qualitative (content analysis), and was conducted using a structured interview technique. A simple thematic analysis was applied to identify key themes (Taylor and Bogdan, 1998). Themes were then quantified to validate impressions. The study took place between June and August 2012. All interviews were conducted in two groups of chain community pharmacies in Aracaju, Brazil. These community pharmacies were representative of different geographical areas within city. Approval for this study was granted by the Sergipe Federal University Hospital Ethics Committee.

Samples size

Prior to the study, we conducted a sample size calculation with a finite population adjustment ($N = 43$), and assumed proportions of $P = 0.16$ (Hammond *et al.*, 2004). Approximately 36 community pharmacists (CPs) were necessary to obtain two-sided 95% confidence intervals for single proportions, while extending five percentage points from observed proportions. It is important to emphasize that the sample was for convenience.

Participants

All CPs in the two groups of chain community pharmacies were eligible for participation. In consecutive order, these CPs were invited to participate in the study if they fulfilled the following inclusion criteria: age ≥ 21 years, present in the pharmacy during the interviewer's visit, and willing to participate in the research. This study excluded pharmacists who were absent during the two visits by the interviewer, pharmacists based in hospital or independent pharmacies, and individuals who were not pharmacists, as identified by the interviewer. CPs were informed that the questionnaire regarded non-prescription medicines and minor illness. They were also informed that an audio and video recorded simulated patient visit would occur after one month of the interview. Participants who agreed to participate answered the questionnaire and complied with the simulated patient visit. All participants gave written informed consent.

Data collection

The interviewer, who was a pharmacy student, responsible for all data collection wore badges to identify herself as a researcher from Federal University of Sergipe. She visited pharmacies twice each day from Monday to Friday, in the morning and afternoon. Thus, 23 pharmacies were visited over 46 visits. To help the interviewer understand the purpose and design of the study, a voice-recorded PowerPoint presentation was prepared and presented by the principal researcher before the study began. This step was taken to familiarize the interviewer with interviewing skills, and to facilitate complete documentation of the study data.

The questionnaire was prepared, tested, evaluated, and adjusted based on a pilot study with a small sample of CPs ($n = 10$); these data were not included in the final analysis. The questionnaire was administered in a private area of the community pharmacy, and lasted 10 to 15 minutes. If the CP was not at the pharmacy, the interviewer visited again one week later. To avoid inappropriate compilation or misinterpretation of results, CPs were interviewed in person. This interviewer-administered approach is believed to provide more reliable and complete information than a self-administered questionnaire, which often results in inappropriate compilation and misinterpretation of the items (Kelsey *et al.*, 1996). The questionnaire consisted of 19 open and closed questions that included demographic data such as age, gender, education, occupation, and years of work in pharmacy. To assess knowledge about laws regarding pharmacists' role in self-medication, perception about minor illness, and self-medication,

the participants were asked the following questions: "Do you know any laws that allow pharmacists to indicate non-prescription medicines? If yes, cite the law."; "Do you know what a minor illness is? If yes, cite an example"; "Can you define what a minor illness is?"; "how do you handle patients who self-medicated and ask for pharmaceutical counseling?". These two last questions were evaluated by content analysis.

Data analyses

Responses were coded and entered into the WHO Word Processing Database and Statistics Program for Public Health Epi Info, version 3.0, software package for descriptive statistical analysis (CDC, 2013). Associations between variables were mainly analyzed by cross tabulating dependent (management of minor illness as an undergraduate) and independent variables (type of university and graduation time). Fisher exact tests were used and differences were considered to be statistically significant, if probability (p) was less than 0.05. The results are presented as frequencies and percentages. In a few cases, participants failed to answer every question, resulting in missing data. Missing data were not estimated or used in the analyses. The content analysis method used in this research involves studying the vocalizations of people, not their thoughts, intentions, emotions, beliefs, or life experiences (Ostermann and Souza, 2009). This set of analysis techniques focuses on systematic and objective procedures for the inference of knowledge (Bardin, 2004). From the vocalizations were extracted meaning cores, and these in turn were classified so as to give rise to themes.

RESULTS

A total of 46 CPs were contacted during the study. Eleven CPs refused to participate and were excluded, resulting in 35 completed interviews. Eighty-eight percent (n = 30) of the respondents were women aged above 25 years (77.7%) (mean = 30.2; SD = 7.3), and 69.4% had graduated less than six years before this study (Table 1). The mean work experience in pharmacy was 4.4 years (range: 0-20 years). Table 1 also demonstrates that 60% of CPs graduated from a private university and focused on clinical pharmacology (42.1%), and clinical and hospital pharmacy (21%) after graduation. The results showed that 37.1% of CPs had minor illness management when they graduated, and of these, 61.5% used the term *pharmaceutical semiology*. This discipline involves the management of minor illnesses with non-prescription medicines.

CPs were asked to define the term "minor illness." A total of 88.8% said they knew the definition (Table 2), and from a total of 41 minor illnesses cited, fever (20%), headache (17%), and flu (10%) were pointed out as the most frequent examples (Figure 1). Most CPs (54.3%) did not have legislative knowledge about minor illness management. On the other hand, among those who did have this knowledge (45.7%), 62.5% did not know the law number, and 31.25% cited the law as n° 44/2009 (Table 2). From a total of 57 sources of information cited, 91.4% of the CPs have

Table 1: Community pharmacist characteristic in relation to gender, age range, and education. (Aracaju, June and August 2012).

Characteristics	Frequency	%
Gender		
Female	30	83.3
Male	5	13.8
Age range (complete years old)		
≤ 25	5	14.3
> 25	27	77.1
Not informed	3	8.5
Community pharmacy experience (years)		
≤ 5	25	71.4
> 5	10	28.6
Graduation		
Private University	21	60
Public University	14	40
Post-graduation		
Yes	19	54.3
No	16	45.7
Area of post-graduation (lato sensu)		
Clinical Pharmacology	8	42.1
Clinical and hospital pharmacy	4	21
Dispensing pharmacy	2	10.5
Others	5	26.3
Having studied minor illness management during pharmacy graduation		
Yes	13	37.1
No	21	60
Not know	1	2.8

Table 2: Frequency of minor illness definition and legislation knowledge, and types of information sources. (Aracaju, June to August 2012).

Variable	Frequency	%
Define minor illness		
Yes	31	88.6
No	4	11.4
Legislation knowledge		
Yes	16	45.7
No	19	54.3
Information Sources		
Yes	32	91.4
No	3	8.6
Type of information sources		
Dictionary of Pharmaceutical Specialties	13	22.8
Vade Mecum	12	21
Guanabara Therapeutic Dictionary	10	17.5
Internet	5	8.8
Others	13	22.8

used one or more during medication dispensing. Of these, 22.8% used the Dictionary of Pharmaceutical Specialties ("Dicionário de Especialidades Farmacêuticas" - DEF), 21% used Vademecum, and 17.5% used the Guanabara Therapeutic Dictionary (Table 2). Table 3 shows the factors that influence CPs' contact with the subject of minor illness subject at the time of graduation. Twelve (92.3%) pharmacists stated type of university to be a positive influencing factor.

When compared with their colleagues, pharmacists who graduate from a private university had more exposure to this subject (p = 0.004) and pharmacists who graduated less than six years ago were 2.75 times more likely to have had the subject of minor illness management in their course (p = 0.044) (Table 3). No statistically significant relationship was found with the other variables.

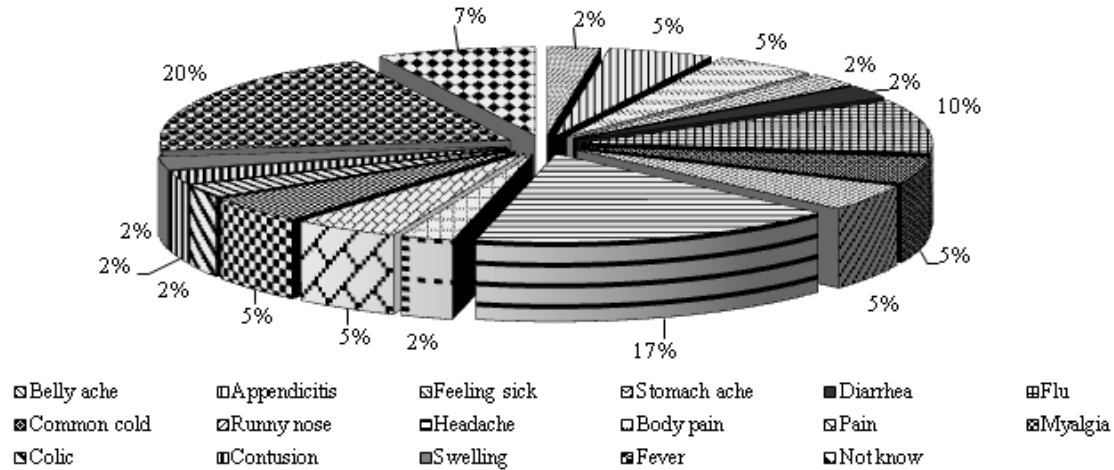


Fig. 1: Frequency of the minor illness cited by the sample (Aracaju, Sergipe, Brazil, June to August 2012).

Pharmacists’ definition of minor illness

Pharmacists who claimed to know what minor illness is, were asked to define the term. From the definitions gathered, two categories were identified, and eight sub-categories were extracted from the 22 comments made. On the other hand, ten pharmacists did not know what a minor illness is.

The categories and sub-categories identified, together with exemplar quotes, are shown in Table 4. Some sub-categories were related to specific categories, such as duration of disease (“It is a set of symptoms or an isolated symptom, momentary” - CP 30), and treatment or possible pharmacist intervention for symptoms (“That we can intervene, are these symptoms” - CP 24), which showed a specific way to distinguish a minor symptom from a chronic disease. However, the most prevalent comments related equally to two categories: emergence or manifestation (“Minor symptom that manifested quickly” - CP 12; “Disease that develops rapidly with severe pain” - CP 13), and severity (“Symptoms that cause some discomfort but does not hinder a person’s life” - CP 15; “The simple reactions occurring with health risk or death in debilitated patients or not” - CP 35).

Pharmacists’ attitude toward self-medication

CPs also included more detailed comments about particular aspects of the self-medication practice or highlighted medicine-specific characteristics (Table 5). For example, some CPs reported collecting information from the patient or providing technical information regarding the drug’s mechanism of action, when guiding self-medication (“Explain how that drug will act in the body and its misuse which can occur in response to the organism” - CP 32; “I ask if he has allergies, if he has ever taken drugs, his age” - CP 3).

Others comments included screening complaint gravity, and then guides or forwards to the doctor, such as: “Depends on

the situation, if I can help I ask all the necessary questions and guide; if not, if it’s something more advanced, I point the doctor” – CP 15; “Depending on the problem I ask how old they are and how long they’ve had the problem. I advise if it’s not very serious, or if it is something chronic, I forward them to the doctor” - CP 35 (Table 5). Community pharmacists often refer the patient to a doctor (8.8%) or tell the patient to seek medical advice (5.8%). On this subject, one pharmacist noted that age group would be the determining factor about whether a patient could only be assessed by a physician: “Depending on the disease, I refer to the physician. If the patient is elderly, I refer” - CP 24. Other comments focused on banning the practice of self-medication despite pharmacist advice or referral to a doctor: “I give directions, if the drug is needed, alright, otherwise I do not agree to explain” - CP 5; “First I tell the patient not to self-medicate, speak to look for medical advice” - CP 13 (Table 5). In contrast, there were pharmacists (5.8%) who could assess patients’ complaints in order to help them: “If one asks for aid, I analyze his case, the symptoms, and check if the medication he is on hand is the most effective” - CP 26 (Table 5).

Table 3: Factors that influence the community pharmacists' exposure to minor illness subject during graduation (Aracaju, Sergipe, Brazil, June -August 2012).

Variables	Minor illness subject		Prevalence (%)	RP ^a	p-valor ^b
	Yes	No			
Type of university					
Private	12	9	57.14	1.00	
Public	1	12	7.69	7.42	0.0043
Time range of graduation (years)					
≤ 5	12	12	50	1.00	
> 5	2	9	18.18	2.75	0.044

^a Prevalence ratio. ^b p value from Fisher exact Test.

Table 4: Categories and subcategories identified from pharmacists' responses about minor illness definition (Aracaju, Sergipe, Brazil, June to August 2012).

Category	Subcategory	Number of comments	Example	
Disease	Duration	3	"It is one disease that is chronic" (CP 5); "Diseases which do not persist" (CP 28); "It is a set of symptoms or an isolated symptom, momentary" (CP 30)	
	Emergence or Manifestation	4	"Disease that develops rapidly with severe pain" (CP 13); "These are diseases in the latest stage" (CP 10); "Sudden illness, which is not chronic" (CP 17); "Pains that appear suddenly" (CP 18)	
	Frequency	1	"Pathological process non-recurring" (CP 29)	
	Severity	4	"Are simplest diseases, symptoms that can be treated without going to the doctor" (CP 3); "Lightest symptoms, most common, easiest to treat, which may progress if handled wrong" (CP 25); "These diseases have a lower risk of severity" (CP 31); "The simple reactions occurring with health risk or death in debilitated patients or not" (CP 35)	
	Symptom	Treatment or possible pharmacist intervention	1	"That we can intervene, are these symptoms" (CP 24)
		Emergence or Manifestation	4	"Symptom immediacy"(CP 6); "Minor symptom that manifested quickly" (CP 12); "A symptom that feels at that moment, but can disappear on treatment" (CP 32); "Recent symptom recent"(CP 33)
Frequency		1	"A symptom that is not constant" (CP 16)	
	Severity	4	"Symptoms that cause some discomfort but does not hinder a person's life" (CP 15); "Are emergency symptoms that appear" (CP 20); "Are palliative symptoms that we can treat" (CP 21); "Are simple symptoms for which people come into the pharmacy" (CP 23)	

Table 5: Themes identified from pharmacists' attitude about self-medication (Aracaju, Sergipe, Brazil, June to August 2012).

Category	Number of Comments	Examples
Guidance on self-medication	10	"I make it clear the severity of self-medication" (CP 31); "I direct how it should medicate correctly" (CP 19); "I'll help" (CP 18); "Give advice" (CP 7); "Explain how that drug will act in the body and its misuse which can occur in response to the organism" (CP 32); "Advise in the best way possible, check to see if the medicine he is using corresponds to what is appropriate" (CP 20); "I ask if he has allergies, if he has ever taken drugs, his age" (CP 3); "Looking for ways of creating awareness and consciousness of the correct way to use the medication" (CP 1); "I try to advise the best way to not affect it" (CP 10); "Listening to him, asking questions that may clarify the problem to be able to guide him better" (CP 12)
Screening for severity, and guides or directs to the doctor	9	"Depends on what it is: if it's a medication associated with great risk, I advise him to see the doctor; if not, I give advice" (CP 14); "Depends on the medication: when it is an over-the-counter medicine, I guide; when it's not, I refer to the doctor" (CP 11); "Depends. I advise depending on what the patient complains of, if it doesn't improve, I recommend that he seek medical advice" (CP 6); "Depends on the situation, if I can help I ask all the necessary questions and guide; if not, if it's something more advanced, I point the doctor" (CP 15); "Depending on the problem I ask how old they are and how long they've had the problem. I advise if it's not very serious, or if it is something chronic, I forward them to the doctor" (CP 35); "Depending on the situation, I forward it to the doctor, if not I advise. If they are elderly or are children, or if it is more serious, I forward them to the doctor" (CP 25); "I always seek medical advice or when something is palliative I guide him" (CP 17); "If it's an over-the-counter medicine I guide, but if it is a prescription, I seek medical advice" (CP 4); "When it is a more serious problem I point the doctor, if it is a minor problem I guide" (CP 28)
Referring the patients to the doctor	3	"Depending on the disease, I refer to the physician. If the patient is elderly, I refer" (CP 24); "At first, my opinion is that he see a doctor" (CP 2); "Depending on what it is, I indicate that they call the doctor" (CP 34)
Directing the patients to seek medical advice	2	"Inform him to see a doctor to guide him" (CP 29); I ask him to go to the doctor" (CP 36)
Screening the severity, and indicate the medicine or guide to seek medical advice	2	"Depending, if I can indicate, I indicate. And also point out natural methods when possible, and if it is something more serious, I point the doctor, especially if they are elderly, pregnant or are a child" (CP 16); "Clarify that he should not, or if it should be used, e.g., if it's for the flu, I indicate; if it's anything more serious, I ask to call the doctor" (CP 27)
Advising patients before referring them to the doctor.	2	"Do the intervention, and advise to see a doctor" (CP 23); "Normally I check what it is, but if the patient is already making use (of medication), (then I ask them to)seek medical advice" (CP 30)
Advice or not allow the patient get the medicine	2	"I give directions, if the drug is needed, alright, otherwise I do not agree to explain" (CP 5); "I try to guide, often tell him not to buy" (CP 22)
Prohibits self-medication and forwards to the doctor	2	"First I tell the patient not to self-medicate, speak to look for medical advice" (CP 13); "I suggest that the patient stop taking, and seek medical advice" (CP 21)
Questioning patient information—emphasis on anamnesis	2	"If one asks for aid, I analyze his case, the symptoms, and check if the medication he is on hand is the most effective" (CP 26); "I ask for information, and ask how long they have been feeling the symptoms" (CP 33)

DISCUSSION

The current study found a higher prevalence of female CPs, which is in accordance with theories of feminization of the profession in Brazil (Farina and Romano-Lieber, 2009). The study found a higher frequency of pharmacists in the age group of 20-29 years, but this does not corroborate the findings of Farina and Romano-Lieber (2009) as well as those of Awad and Abahussain (2010). Although the average length of experience of pharmacists as practitioners was less than 5 years, studies showed that community pharmacists had more than 10 years of experience, as Hughes (2002), Anemblom *et al.* (2004), Awad *et al.*, (2010), and Hanna *et al.*, (2010) demonstrated. It is noteworthy that 73% of establishments registered in the Regional Councils of Pharmacy in Brazil are community pharmacies (BRASIL, 2012b). These findings support the idea that community pharmacies employ recently graduated pharmacists.

In Brazil, there are 416 pharmacy faculties, distributed at public and private universities (Oliveira-Sá, 2011). Most pharmacists (52.75%) graduated from private institutions, which corroborated the results obtained from Souza (2012). These institutions tend to be more receptive and include new subjects, such as pharmaceutical semiology, while the public institutions tend to be more conservative and are based on traditional disciplines (They have greater pressure to meet the National Curriculum Guidelines of Graduate in Pharmacy for a generalist pharmacy curriculum to be implemented, and tailored for the Brazilian Public Health System) (Brasil, 2002).

According to Oliveira Sá (2011) the curriculum of some pharmacy courses at Federal Institutions of Higher Education on Brazil have an average workload comprised of 30.7% basic area focused courses (Biological and Health Sciences, and Physical Sciences) compared to 10.2% of Social Pharmacy and Clinic area courses. Yet pharmacists chose to specialize in the Clinical Pharmacy and Hospital Pharmacy areas in an attempt to meet the national demand in the field. This may result from deficiencies in training in these areas which, in turn, generates concern to pharmacists when the issue is patient clinical management. Thus, it can be stated that the CPs seeks to develop and improve their skills in identifying and minimizing events that cause patient health risks, such as worsening of clinical symptoms or absence of early diagnosis. In this study, we found that pharmacists had no exposure to subject about minor illness management. This reflects a technician model of Pharmacy graduation courses that do not provide clinical experiences in addressing acute or chronic medical conditions, health promotion activities, and education about the risks of irrational use of medicines. Studies have systematically pointed to failures in the provision of cognitive services by public and private community pharmacies, as well as in the training of the pharmacists in relation to clinical activities (de Castro and Correr, 2007). Training programs and treatment guidelines seem to have at least a transient positive effect on clinical performance. Likewise, half of the respondents pointed to the lack of algorithms and protocols for minor illness management in community pharmacies.

Westerlund *et al.* (2007) reported that clinical guidelines are of great importance in both standardizing and improving the quality of pharmacy advice to non-prescription drug consumers suffering from minor ailments. Considering that the process of decision making is complex (Hanna and Hughes, 2010), these tools are essential to assess the patient's clinical condition, and to selection the most appropriate treatment for an individual patient as supported by clinical evidence. According to Holtmann *et al.* (2011) the development of algorithms should serve as a basis for replication in more formal guideline recommendations. Thus, the use of therapeutic protocols that focus on disease pathophysiology and treatment provide the best choice of drug therapy, from obtaining detailed history of the complaint.

Our findings highlight that pharmacists do not have reliable sources of information for counseling patients. However, these results are similar to Franceschet and Rocha (2005), where the Dictionary of Pharmaceutical Specialties was used as a source of information in community pharmacies by 95.6% of pharmacists. However, this is not the best source of information being an industry source, and has a conflict of interest. In Brazil, with the increasing presence of the pharmacists in private pharmacies, the demand for counseling (mainly for non-prescription drugs) has grown (de Castro and Correr, 2007). Therefore, the availability of reliable and scientifically-based sources of information, such as protocols and algorithms for decision making, will assist CPs in exploring the signs and symptoms, and differentiating those that require medical attention.

Many pharmacists had no knowledge of any Brazilian legislation concerning the management of minor illness. This finding confirms the need for implementation of teaching undergraduate disciplines that deal with pharmaceutical policies, given that the WHO (1998), and the Brazilian Federal Council of Pharmacy (2001) acknowledged the responsibility of the pharmacist in self-medication. Previous research has shown that the knowledge and attitudes that pharmacists have on regulatory aspects of how they should operate, and dispensing norms are unsatisfactory (Silva and Vieira, 2004) despite the norms of Good Dispensing Practices as edited by the Brazilian Federal Council of Pharmacy (CFF, 2001)

The study demonstrated that CPs cited minor symptoms examples when defined it that correspond to those reported in the medical literature (fever, pain, and diarrhoea). Based on the study of Major and Vincze (2010) the most consumed non-prescription medicines were intended for the treatment of pain, fever, cold, and flu. Likewise, Victor *et al.* (2008) showed that the habit of self-medication is associated with signs and symptoms of acute illnesses such as headache and fever. It was also noted that some CPs mentioned, on giving an example of a minor illness, that depending on the time of onset complaint, these symptoms are no longer considered to be minor, but indicative of a more serious disease ("Headache depending on how many days" - CP34; "Flu if not exceeds a period of 15 days" - CP 35). As Rutter *et al.* (2004) demonstrated, parameters like this should be accompanied by

further questions that confirm and clarify the symptoms as well as allow the CPs to gain a complete picture of the patient's problem.

A group of pharmacists claimed to understand the term 'minor symptom'. However, they were unable to provide a definition of the term. Alternatively, some CPs were able to target parameters such as duration, frequency, and severity of the disease or symptom, but also noted that isolated components such as these would not alone classify a clinical complaint as acute or chronic ("It is a set of symptoms or an isolated symptom, momentary" - CP 30; "Pathological process non-recurring" - CP 29; "Are simplest diseases, symptoms that can be treated without going to the doctor" - CP 3). Some characteristics of the patient's complaint should be assessed by the pharmacist for decision making, such as age and sex of the patient, duration, frequency and severity of symptoms, and the presence of warning signs (Krishnan and Schaefer, 2000; Westerlund *et al.*, 2003; Rutter *et al.*, 2004; Chui and Li, 2005; Alte *et al.*, 2007; Driesen and Vandenplas, 2009; Mehuis *et al.*, 2009; Saengcharoen and Lerkiatbundit, 2010).

Most CP comments regarding self-medication included that the physician represents a form of professional anchoring regarding the responsibility for the patient. In other words, there is a social representation of the doctor as the only individual responsible for diagnosing and selecting treatment for illnesses, which reflects his ability to obtain the best clinical outcome for the patient. This assertion is corroborated by Weiss and Sutton (2009), who noted that some pharmacists, even with the legal mandate to prescribe, might still see themselves as subordinates within a medically dominated hierarchy, and feel the need to receive final approval from a medical colleague.

When the phrase "depending on..." was mentioned in the question, respondents also expressed their views about what situations determine their next step or attitude. This condition was particularly prevalent regarding CPs attitudes toward patients with specific characteristics ("Depending, if I can indicate, I indicate. And also point out natural methods when possible, and if it is something more serious, I point the doctor, especially if they are elderly, pregnant or are a child" - CP 16; "Depending on the disease, I refer to the physician. If the patient is elderly, I refer" - CP 24). Krishnan and Schaefer (2000) demonstrated that, depending on the problem, the pharmacist recommended that the patient visit a physician immediately (termed direct referral), or the pharmacist advised the patient to contact a physician in case symptoms persisted (termed conditional referral). Therefore, regardless of the clinical condition, the CP seeks to meet the needs of patients by acting guide and/or someone who suggest medicines, and/or someone who refers the patient to the doctor ("Depends on the situation, if I can help I ask all the necessary questions and guide; if not, if it's something more advanced, I point the doctor" - CP 15).

Some CP comments were passive ("At first, my opinion is that he see a doctor" - CP 2; "Inform him to see a doctor to guide him"- CP 29), while others indicated a more active involvement and professional responsibility regarding self-

medication. For example, some CPs assume that their role is to guide the patient, and at the same time regulate the use of the medicine ("I give directions, if the drug is needed, alright, otherwise I do not agree to explain" - CP 5). This can be explained by the findings of Weiss and Sutton (2009), in which CPs sell medicines over the counter to customers, and may engage in a discussion with the customer about what medicine is most appropriate for them.

Finally, it was observed that anamnesis is a key aspect that demonstrates the competence and performance of the professional, when assessing patient information. This can be shown by statements that indicate the need for patient evaluation before further decision-making regarding the most effective medicine for the patient ("If one asks for aid, I analyze his case, the symptoms, and check if the medication he is on hand is the most effective" - CP 26). It is important to note that this CP described briefly the prescription process that should compulsorily list the most indicated, effective, safe, and convenient medicine for a clinical condition. Furthermore, Weiss and Sutton (2009) assumed that prescribing could be viewed as a complex series of processes with distinct tasks and decision points. The multiple terms used to describe prescribing generates uncertainty as to whether dose adjustments are prescriptions, and if refusal to dispense an incorrect prescription is also prescribing (Weiss and Sutton, 2009).

This research has a number of limitations. We recruited a self-selected group of community pharmacists who may not be representative of their professional colleagues. However, the sample size calculation was based on the number of network pharmacies under study. These network pharmacies were chosen because the pharmacist works during the opening hours of the pharmacy, but this is not reflective of the community pharmacy in Brazil. Moreover, the lack of a room for the interviews may have influenced the pharmacists' responses. To minimize this problem, interviews were conducted during the non-peak business hours (early morning and afternoon) and in the administrative area of the pharmacy. The interview was not recorded, which may have affected interpretations of the responses. However, the interviewer was trained to write down, and then repeat the answers to preserve the respondent's original intent. Finally, reflexivity was employed to improve the validity of the qualitative part of the research (Malterud, 2001). As part of the reflexivity, the interviewer debriefed with the fourth and the fifth researcher following interviews and discussed initial findings and interpretations.

CONCLUSION

In this study, the CPs analyzed had different characteristics—for example, they had studied at private universities, had exposure to the discipline of pharmaceutical semiology, specialized in the clinical area, but did not have the correct perception of what was an evidence-based source of information. Findings indicated that community pharmacists have poor knowledge about minor illness that could explain the passive attitudes towards self-medication. On the other hand, pharmacists

presented several specific perceptions about minor illness, such as duration, severity, time of onset, and the possibility of treatment or pharmaceutical intervention. Moreover, some statements said that responsible self-medication advocates the assessment of patient clinical signs and symptoms culminating in pharmacist intervention that included patient orientation about the complaint and the treatment, and/or doctor referral if the patient presented as a risk.

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