

## Profile of pharmaceutical care in primary health centers in São Bernardo do Campo, Southeastern Brazil

Rebeca Peres dos Santos Francisco e Silva<sup>1,2</sup>,  
Francisco Winter dos Santos Figueiredo<sup>2</sup>, Ricardo Peres do Souto<sup>1,2\*</sup>

<sup>1</sup>Secretaria de Saúde de São Bernardo do Campo (SSSBC), São Bernardo do Campo, SP, Brasil, <sup>2</sup>Centro Universitário FMABC, Santo André, SP, Brasil

The effective insertion of the pharmacist into primary care is an important goal for health policies. The objective of this study was to describe and analyze pharmacists and Pharmaceutical Care in the primary health centers (UBS) of São Bernardo do Campo. Data were obtained through an interview applied to pharmacists. The instrument has three sections: (1) Pharmacist identification; (2) Pharmacist work; and (3) Pharmaceutical activities. Items in section 3 correspond to the guidelines of agencies that promote Pharmaceutical Care in the primary health system. All 24 pharmacists working in UBS in São Bernardo do Campo were interviewed. Every center dispensing medicines has a responsible pharmacist. These pharmacists are predominantly women and postgraduates. Activities of Pharmaceutical Care reported were: daily prescription analysis (75% of interviewees); monthly participation in patient groups (70.8%); monthly follow-up of pharmacotherapy adherence (58.3%); monthly participation in multiprofessional team meetings (54.2%); monthly home visits (12.5%); health education to the community (83.3%); and pharmacist consultation (37.5%). Frequency of prescription analysis and home visits was weakly associated with aspects of the pharmacist and the facility. This study showed that Pharmaceutical Services are structured in primary care in São Bernardo do Campo and many Pharmaceutical Care activities are offered in its UBS.

**Keywords:** Pharmaceutical services. Pharmaceutical care. Medication therapy management. Pharmacists. Primary health care. Public health system.

### INTRODUCTION

The professional practice of the pharmacist has undergone major changes. In the last few decades, there has been a great shift towards actions closer to the users of the drugs (Hepler, Strand, 1990; Berenguer *et al.*, 2004). This field of work for pharmacists has been designated Pharmaceutical Care and includes activities of patient education and guidance as well as supervision of the pharmacotherapy (Allemann *et al.*, 2013). Pharmaceutical Care has become a strategic area within Pharmaceutical Services, a set of actions to promote, protect and recover health through access to medicines and their rational use (WHO, 2011). Proximity to the

pharmacist providing Pharmaceutical Care has been shown in randomized controlled trials to be beneficial to the patient, with favorable outcomes in several aspects related to disease control, health care and well-being (Babar *et al.*, 2018). Interestingly, approaching the patient represents the recovery of a previous reality of the profession, preceding the industrialization of medicine production. At the beginning of the last century, in addition to preparing the drug, the pharmacist played a patient-oriented role in its use.

In Brazil, the same transformations within the pharmacist's scope are in process (Angonesi, Sevalho, 2010). These changes have occurred especially in the national public health system – Sistema Único de Saúde (SUS) – driven by government policies. Soon after the creation of SUS, the doors for the pharmacist's participation in primary health care were opened in 1998 with the national meeting *Encontro Nacional de*

\*Correspondence: R. P. do Souto. Centro Universitário FMABC. Av. Lauro Gomes, 2000 – Vila Sacadura Cabral. Santo André/SP - CEP: 09060-870 – Brasil. E-mail: ricardo.souto@fmabc.br. Conflict of interest: Nothing to declare. Source of financing: Nothing to declare

*Assistência Farmacêutica* and release of the guideline *Política Nacional de Medicamentos* (PNM) as an essential tool in public health (Pereira, Freitas, 2008). Then, in 2004 another guideline (*Política Nacional de Assistência Farmacêutica – PNAF*) made Pharmaceutical Services an integral part of health policy and described more clearly the desired practices of Pharmaceutical Care (Oliveira, Assis, Barboni, 2010). With these regulations, the number of pharmacists attending in primary health centers (*Unidades Básicas de Saúde – UBS*) increased by 75% between 2008 and 2013, even though they represent only about 2% of health professionals (Carvalho *et al.*, 2016).

The challenges of effectively inserting Pharmaceutical Care into SUS are great (Araújo *et al.*, 2008). It is fundamental to improve the existing model and to continue seeking new strategies. For this reason, a major survey to characterize the pharmaceutical services offered in primary care was launched in 2015: *Pesquisa Nacional sobre Acesso, Utilização e Promoção do Uso Racional de Medicamentos* (PNAUM) – *componente serviços* (Álvares *et al.*, 2017). The PNAUM survey obtained information from 300 municipalities in the country (all capitals and the largest cities in each region and randomly selected representatives from the smaller cities), interviewing city health managers, professionals responsible for delivering medicines at dispensing centers, and users of the health system. This is an important study for knowing and evaluating the general panorama of Pharmaceutical Care in the country. Nevertheless, it still needs to be complemented by research that details the clinical activities of pharmacists and explores local realities.

In addition to PNAUM, there are few studies that analyze pharmacists and pharmaceutical services in the Brazilian primary health network (Funchal-Witzel *et al.*, 2011). For the most part, these articles describe logistic aspects of medicines and their dispensation (Naves, Silver, 2005; França Filho *et al.*, 2008; Menolli, Ivama, Cordoní Júnior, 2009; Canabarro, Hahn, 2009; Silva Júnior, Nunes, 2012). Studies evaluating the activities of pharmacists directly with patients are less common and more recent (Obreli-Neto *et al.*, 2015).

Considering the current changes in the pharmacist's role and the need for further evaluation of the pharmacist's presence and performance in general practice, the present study aims to describe and analyze the pharmacists and Pharmaceutical Care provided in primary health centers (UBS) in São Bernardo do Campo, São Paulo.

## METHOD

### Place of study

The study was carried out in São Bernardo do Campo, located in the metropolitan region of São Paulo, Southeastern Brazil. The estimated population in July 2017 was 827,437 inhabitants (IBGE, 2018). The city is divided into nine health territories, which are served by 34 primary health centers (UBS). These UBS are inserted in a variety of local contexts (urban and rural, high and low socioeconomic level), and reproduce many of the various scenarios of Pharmaceutical Care in Brazil. Only one of these facilities (UBS Jardim das Oliveiras) has no pharmacy, and the offer of pharmacy services occurs in another facility (UBS Orquídeas).

### Study outline

This is a descriptive and quantitative analytical study of the characterization of Pharmaceutical Care professionals and activities in primary health care in São Bernardo do Campo. The data were obtained through a structured interview applied to all 24 pharmacists working in the UBS of the municipality.

### Instrument

A form with direct, objective and closed multiple choice questions was proposed to be answered by pharmacists to monitor and evaluate their actions and activities regarding Pharmaceutical Care provided to UBS users under their responsibility.

The instrument is divided into three main sections: (1) Identification of the pharmacist; (2) Characterization of the pharmacist's work; and (3) Characterization of the activities performed in the pharmacy of the UBS.

The main variables evaluated in section 1 (Identification of the pharmacist) included information about the professional interviewed such as sex, graduation institution, time of graduation, and postgraduate qualifications. Regarding this last question, it was investigated whether the postgraduate degree was specialist, master's or doctor's and in which field. Among the fields of the postgraduation courses reported by pharmacists, Clinical Pharmacy and Hospital Pharmacy were considered specific to Pharmacy.

In section 2 (Characterization of the pharmacist's work), questions on the relation between the

professional and the health center were included: type of contractual relationship, monthly workload, how long the pharmacist has been contracted, and whether the pharmacist works in another city besides São Bernardo do Campo. Inquiry was also made about the organizational issues of the health center such as the number of pharmacy assistants and dispensation of psychotropic drugs.

Section 3 (Characteristics of the pharmaceutical activities) corresponds to a survey of the activities of management of medicines and Pharmaceutical Care developed in the UBS, as well as the retrieval of information about medicines.

The items of medication management studied were: use of the standardized medication list adopted in the municipality; contribution to the regular review of the standardized list of drugs adopted in the municipality; place of drug dispensation; reception and storage of medicines; controls of medicine stock; verification of validity of the medicines.

Regarding medication information, the following were assessed: the frequency of doubts about medication; the proportion of resolution of these doubts; and sources of information consulted to clarify these doubts.

The items of Pharmaceutical Care evaluated corresponded to the recommendations and guidelines of several organizations that promote its insertion in the Brazilian primary health system. Eight documents were used (Chart 1). Based on these documents, the items evaluated were the frequency of: home visits, pharmaceutical consultations at the UBS, analysis of dispensed prescriptions, presence at multiprofessional health team meetings, participation in groups for follow-up and guidance to patients, monitoring of treatment adherence, involvement in health education actions for the community, and participation in programs for priority groups of Pharmaceutical Care (hypertension, diabetes mellitus, tuberculosis and smoking). Desired frequencies for each activity were arbitrarily defined considering the routine in the pharmacy from a UBS. In the case of prescription analysis, daily performance of this activity was considered adequate. In the case of participation in health team meetings, home visits, work in patient groups, and adherence monitoring, the appropriate frequency considered was at least once a month. In the case of pharmaceutical consultation, educational actions and performance in the priority groups (hypertension, diabetes mellitus, tuberculosis and smoking), just reporting the activity – even if

occasionally (less than once a month) – was considered satisfactory.

The original instrument (in Portuguese) is available upon request to the authors.

### **Data collection**

The study was conducted with the consent of the local authority (Departamento de Atenção Básica e Educação Permanente e Assistência Farmacêutica de São Bernardo do Campo).

The primary care pharmacists of São Bernardo do Campo were contacted individually at the Pharmaceutical Services meeting of the municipality or directly at the UBS. In the first appointment, the study was presented, and the free and informed consent term was signed. The instrument was applied in the month following the first contact, always by the same investigator. The participants themselves completed the form, and the investigator was available to clarify any doubts. In the case of pharmacists working in two UBS, only one form was filled out. Interviews were conducted between December 2017 and June 2018.

The number of registered inhabitants that use the UBS (active population) was extracted from the database of the municipal Health Department through the HygiaWeb information system. In the case of UBS sharing the same pharmacist, active populations were added.

### **Ethical aspects**

The study was evaluated by the Research Ethics Committee of the Faculdade de Medicina do ABC and approved under process number 2,418,591.

### **Statistical analysis**

Descriptive statistical analysis was performed by absolute and relative frequencies for qualitative variables, and by central tendency and dispersion measures for the quantitative variables, by adherence of the data to the normal distribution (evaluated by the Shapiro–Wilk test). Student's t-test and interval estimates of means (95% confidence intervals) were used to analyze factors associated with non-prescription medications. The level of significance was 5%. The statistical program used was Stata® (StataCorp, LC) version 11.0.

**CHART 1** – Brazilian guidelines used for evaluating Pharmaceutical Care in primary health centers

| AGENCY  | DOCUMENT  | REFERENCE                   |
|---|---|-----------------------------|
| Ministério da Saúde, Brazil                       | Assistência Farmacêutica na Atenção Básica: Instruções Técnicas para a sua Organização  | Brasil, 2006                |
| Ministério da Saúde, Brazil                       | Serviços Farmacêuticos na Atenção Básica à Saúde  | Brasil, 2014a               |
| Ministério da Saúde, Brazil                       | Capacitação para Implantação dos Serviços de Clínica Farmacêutica   | Brasil, 2014b               |
| Secretaria Municipal da Saúde, São Paulo, Brazil  | Manual de Assistência Farmacêutica. Rede de Atenção Básica e de Especialidades. Descrição de Atribuições e Atividades de Farmacêuticos e Técnicos de Farmácia | São Paulo, 2016             |
| Conselho Nacional de Secretários de Saúde, Brazil | Assistência Farmacêutica no SUS   | Brasil, 2011                |
| Conselho Federal de Farmácia, Brazil              | O Farmacêutico na Assistência Farmacêutica do SUS: Diretrizes para Ação   | CFF, 2015                   |
| Pan American Health Organization                  | Consenso Brasileiro de Atenção Farmacêutica: Proposta   | Ivama <i>et al.</i> , 2002a |
| Pan American Health Organization                  | Relatório 2001-2002: Atenção Farmacêutica no Brasil: Trilhando Caminhos   | Ivama <i>et al.</i> , 2002b |

## RESULTS

Each of the 33 UBS of São Bernardo do Campo that offer pharmacy services has a professional pharmacist responsible for the sector. In 15 of these facilities, the pharmacist is exclusive. In other cases, one pharmacist attends two facilities. Therefore, a total of 24 pharmacists work in the public primary care of the municipality. None of these professionals works in the health network of another city besides São Bernardo do Campo. Two pharmacists are municipal statutory officials; the others are hired under the general Brazilian work regulation (*Consolidação das Leis Trabalhistas*). All have a monthly workload of 30 hours or more.

The characterization of pharmacists is shown in Table I. It can be observed that 75.0% are female. The mean age is 34.2 years and the average time since graduation is 7.8 years. The majority have a postgraduate

degree (75.0%), in almost all cases a specialist title. One of the participating pharmacists has completed a master's degree. Of the total number of professionals, for 29.2% the postgraduate degree was in a specific area of Pharmacy (Clinical Pharmacy or Hospital Pharmacy). Most pharmacists have been in the same workplace for a maximum of 4 years (70.8%) and work in only one UBS (62.5%).

In relation to the pharmacies in the UBS of São Bernardo de Campo, it was verified that the average number of professionals working in the sector (pharmacists and assistants) was 3.4 per unit. The active population by UBS was, on average, 46,463 users. In most UBS (54.2%) there is no dispensing of psychotropic drugs.

For medication management, all pharmacists interviewed reported receiving and storing medications, controlling the stock and checking their validity. All

pharmacists use the standardized list of medicines adopted by the municipality, but only 45.8% contribute to its periodic review. Storage of part of the drugs outside the pharmacy, in places such as offices and service rooms, was reported in only one case. In most facilities, the dispensing of medicines occurs exclusively in the pharmacy of the unit.

Drug-related questions occurred at least once a week for 79.7% of pharmacists. These doubts were solved mainly by internet search (83.3% of the cases), but rarely by accessing scientific databases such as PubMed/MEDLINE (4.2% of cases). Consultations to pharmacist colleagues (16.7%) and books (12.5%) were also reported. The rate of resolution of doubts was 80–100% for 91.7% of pharmacists; for the others it varied between 50% and 79%.

Most pharmacists reported practicing the Pharmaceutical Care activities recommended in the scope of primary care (Table II). It is observed that the frequencies varied among activities. In each case, a minimum frequency that would be ideal for the activity was considered. Analysis of the prescriptions dispensed at the UBS should be performed daily, which was reported in 75% of cases. Regarding activities that should occur at least once a month, it was reported that: 70.8% reached this frequency for participation of follow-up and/or orientation groups for patients, 58.3% for follow-up of patients' adherence to treatment, 54.2% for attendance of health team meetings, and 12.5% for home visits. Finally, pharmaceutical consultations and the actions of education and health promotion to the community, more sporadic or uncommon activities, were reported (albeit less often than once a month), respectively, by 83.3% and 37.5% of pharmacists.

Next, it was studied whether there is an association between performance of the Pharmaceutical Care activities listed in Table II and the characteristics of the pharmacist and UBS. Considering the ideal frequencies chosen for each activity, no association with statistical significance was found. However, three relationships approached this situation: (1) pharmacists who had been at the UBS longer did more daily prescription analysis ( $p = 0.070$ ; Table III); (2) pharmacists working in a UBS with more professionals in the pharmacy carried out more monthly home visits ( $p = 0.070$ ; Table IV); (3) pharmacists working in a UBS not dispensing psychotropic drugs carried out more monthly home visits ( $p = 0.089$ ; Table V).

The Pharmaceutical Care offered to four priority groups – those with hypertension, diabetes mellitus, tuberculosis and smoking – was also evaluated (Table VI).

Most UBS did not register hypertensive and diabetic patients who start disease control and treatment of the disease (95.8% and 75.0%, respectively). Regarding the follow-up of these patients, all services carried out dispensing and orientation of medications for the control and treatment of the diseases. In both programs, 62.5% of pharmacists participated in follow-up and/or counseling groups.

Registration of patients starting treatment for tuberculosis occurred in 62.5% of the services. Most offered guidance on the importance of treatment for tuberculosis (58.3%) and following treatment adherence (75.0%), but less than half supervised the daily intake of tuberculostatics (45.8%).

Users with an interest in participating in the smoking control group were enrolled in 75.0% of the UBS. Most pharmacists (91.7%) participated in the follow-up and/or orientation groups for participants of the National Tobacco Control Program and verified their presence in groups and adherence to treatment.

## DISCUSSION

The present study evaluated the Pharmaceutical Care offered in primary care centers in the city of São Bernardo do Campo. For this, it was important to characterize the profile of the 24 pharmacists working at the UBS and to know the activities developed by these professionals with users and other professionals in the health team. The pharmacists were predominantly female and in the age group of 30 to 40 years, the same profile observed by the PNAUM survey for UBS pharmacists throughout the country (Araújo *et al.*, 2017), as well as for professionals working in community pharmacies in the State of Santa Catarina (França Filho *et al.*, 2008) and for pharmacists registered in the class council of the State of Paraná (Hipólito Júnior *et al.*, 2017). The average time since graduation was similar to data from Paraná state (França Filho *et al.*, 2008). The proportion of pharmacists in São Bernardo do Campo with a postgraduate degree was higher than in the other studies, where there was a variation of 32% to about 50% (França Filho *et al.*, 2008; Araújo *et al.*, 2017; Hipólito Júnior *et al.*, 2017). Comparing the data over time, an increase in the proportion of postgraduate pharmacists may have occurred in the last 10 years.

**TABLE I** – Characterization of the pharmacists working in primary health centers (UBS) of São Bernardo do Campo, SP

| VARIABLE                 | N (%) or average $\pm$ standard deviation |            |
|--------------------------|---|------------|
|                          | Gender                                    | Male       |
| Female                   |   | 18 (75.0%) |
| Age                      | 34.2 $\pm$ 5.3 years                      |            |
| Time since graduation    | 7.8 $\pm$ 3.7 years                       |            |
| Postgraduation           | No  | 6 (25.0%)  |
|                          | Health Sciences (except Pharmacy)*        | 11 (45.8%) |
|                          | Pharmacy**                                | 7 (29.2%)  |
| Time working in the UBS  | $\leq$ 4 years                            | 17 (70.8%) |
|                          | > 4 years                                 | 7 (29.2)   |
| Number of UBS working in | 1   | 15 (62.5%) |
|                          | 2   | 9 (37.5%)  |

\* Collective Health, Public Health, Family Health. \*\* Clinical Pharmacy, Hospital Pharmacy.

**TABLE II** – Frequency of Pharmaceutical Care activities performed by pharmacists in primary health centers (UBS) of São Bernardo do Campo, SP

| PHARMACEUTICAL CARE ACTIVITY | FREQUENCY           |                       |               |
|------------------------------|---------------------|-----------------------|---------------|
|                              | At least once a day | At least once a month | Any frequency |
| Prescription analysis        | 75.0%               | 79.2%                 | 95.8%         |
| Patient group                | 4.2%                | 70.8%                 | 95.8%         |
| Follow adherence             | 20.8%               | 58.3%                 | 75.0%         |
| Health team meetings         | 0.0%                | 54.2%                 | 87.5%         |
| Education in health          | 0.0%                | 54.2%                 | 83.3%         |
| Home visit                   | 0.0%                | 12.5%                 | 66.7%         |
| Pharmaceutical consultation  | 4.2%                | 20.8%                 | 37.5%         |

**TABLE III** – Association of pharmacists working time with the frequency of Pharmaceutical Care activities in the primary health centers (UBS) of São Bernardo do Campo, 2018

| PHARMACEUTICAL CARE ACTIVITY | FREQUENCY | PHARMACIST WORKING TIME AT UBS |                           | p*    |
|------------------------------|-----------|--------------------------------|---------------------------|-------|
|                              |           | 4 years or less (n = 17)       | More than 4 years (n = 7) |       |
| Prescription analysis        | Daily     | 11 (64.7%)                     | 7 (100.0%)                | 0.070 |
| Home visit                   | Monthly   | 3 (17.7%)                      | 0 (0.0%)                  | 0.235 |
| Health team meeting          | Monthly   | 11 (64.7%)                     | 2 (28.6%)                 | 0.106 |
| Patient group                | Monthly   | 13 (76.5%)                     | 4 (57.1%)                 | 0.344 |
| Follow adherence             | Monthly   | 9 (52.9%)                      | 5 (71.4%)                 | 0.404 |
| Pharmaceutical consultation  | Any       | 7 (41.2%)                      | 2 (28.6%)                 | 0.562 |
| Education in health          | Any       | 15 (88.2%)                     | 5 (71.4%)                 | 0.315 |

\* Chi-square test.

**TABLE IV** – Association of the number of professionals in the pharmacy with the frequency of Pharmaceutical Care activities in the primary health center (UBS) of São Bernardo do Campo, 2018

| PHARMACEUTICAL CARE ACTIVITY | FREQUENCY | NUMBER OF PROFESSIONALS average (IC 95%)* |               | p**   |
|------------------------------|-----------|---|---------------|-------|
|                              |           | Perform                                   | Don't perform |       |
| Prescription analysis        | Daily     | 3.4 (2.8–3.9)                             | 3.5 (1.7–5.3) | 0.859 |
| Home visit                   | Monthly   | 4.7 (1.6–10.9)                            | 3.2 (2.8–3.7) | 0.070 |
| Team meeting                 | Monthly   | 3.6 (2.9–4.4)                             | 3.2 (2.3–4.1) | 0.421 |
| Patient group                | Monthly   | 3.6 (2.9–4.4)                             | 2.9 (2.5–3.2) | 0.176 |
| Follows adherence            | Monthly   | 3.4 (2.7–4.1)                             | 3.5 (2.5–4.5) | 0.795 |
| Pharmaceutical consultation  | Any       | 3.4 (2.9–4.0)                             | 3.4 (2.7–4.1) | 0.937 |
| Education in health          | Any       | 3.4 (2.8–3.8)                             | 3.8 (0.2–7.3) | 0.581 |

\* 95% CI = 95% confidence interval. \*\* Student's t-test.

**TABLE V** – Association of dispensing of psychotropic drugs with the frequency of Pharmaceutical Care activities in the primary health center (UBS) of São Bernardo do Campo, 2018

| PHARMACEUTICAL CARE ACTIVITY | FREQUENCY | DISPENSING OF PSYCHOTROPIC DRUGS |            | p*    |
|------------------------------|-----------|----------------------------------|------------|-------|
|                              |           | Yes (n = 11)                     | No (n =13) |       |
| Prescription analysis        | Daily     | 9 (81.8%)                        | 9 (69.2%)  | 0.478 |
| Home visit                   | Monthly   | 0 (0.0%)                         | 3 (23.1%)  | 0.089 |
| Team meeting                 | Monthly   | 5 (45.5%)                        | 8 (61.5%)  | 0.431 |
| Patient group                | Monthly   | 6 (54.6%)                        | 11 (84.6%) | 0.106 |
| Follows adherence            | Monthly   | 7 (63.6%)                        | 7 (53.9%)  | 0.628 |
| Pharmaceutical consultation  | Any       | 3 (27.3%)                        | 6 (46.2%)  | 0.341 |
| Education in health          | Any       | 8 (72.7%)                        | 12 (92.3%) | 0.200 |

\* Chi-square test.

**TABLE VI** – Pharmaceutical Care activities carried out in priority groups in primary health center (UBS) of São Bernardo do Campo, 2018

| PRIORITY GROUP    | QUESTION   | Affirmative answer (any frequency) |
|-------------------|--|------------------------------------|
| Hypertension      | Do you dispense medications for the control and treatment of hypertension advising patients on the importance of adherence to pharmacotherapy?             | 100%                               |
|                   | Do you participate in follow-up and/or orientation groups for patients with hypertension?  | 62.5%                              |
|                   | Do you register patients who start the control and treatment of hypertension?  | 4.2%                               |
| Diabetes mellitus | Do you dispense medications for the control and treatment of diabetes mellitus, advising patients on the importance of adherence to pharmacotherapy?       | 100%                               |
|                   | Do you advise patients on the start of glucometer use, strips and materials needed for glycemic control?   | 100%                               |
|                   | Do you participate in follow-up and/or counseling groups for patients with diabetes mellitus?  | 62.5%                              |
|                   | Do you register patients who start the control and treatment of diabetes mellitus diseases, both those who use oral hypoglycemic agents and insulin users? | 25.0%                              |

*(continuing)*



**TABLE VI** – Pharmaceutical Care activities carried out in priority groups in primary health center (UBS) of São Bernardo do Campo, 2018

| PRIORITY GROUP | QUESTION   | Affirmative answer (any frequency) |
|----------------|--|------------------------------------|
| Tuberculosis   | Do you follow patient adherence to treatment?  | 75.0%                              |
|                | Do you register patients who start treatment for tuberculosis?   | 62.5%                              |
|                | Do you advise patients on the importance of treatment for the cure and success of pharmacotherapy?           | 58.3%                              |
|                | Do you supervise the daily intake of tuberculostatics for the indicated patients?                            | 45.8%                              |
| Smoking        | Do you participate in monitoring and/or counseling groups for users of the National Tobacco Control Program? | 91.7%                              |
|                | Do you follow patient adherence to treatment and participation in the tobacco control group?                 | 91.7%                              |
|                | Do you register patients who want to be part of the smoking control group?                                   | 75.0%                              |

In São Bernardo, all UBS dispensing medicines have a pharmacist responsible for the service. This is not typical in Brazil. PNAUM found only one pharmacist responsible for the dispensation for every three UBS in the country (Carvalho *et al.*, 2017). In that survey, this responsibility lay most commonly with technicians or nursing assistants (43.0%). Previous regional studies have found few or even no pharmacists in drug dispensing services from SUS (Naves, Silver, 2005; Canabarro, Hahn, 2009; Menolli, Ivama, Cordoni Júnior, 2009).

The occurrence of Pharmaceutical Care activities in the UBS of São Bernardo do Campo was high. Over 90% of pharmacists reported performing prescription analysis and participating in follow-up and guidance groups of patients. More than half reported engaging in health team meetings, conducting community health education, overseeing adherence to the treatment of patients, and visiting SUS users in their homes. The only activity performed by less than half of pharmacists was pharmaceutical consultation. For comparison, in PNAUM, the percentage of primary care pharmacists performing clinical activities was only 21.2% in the Southeast region and 21.3% in the whole country (Araújo *et al.*, 2017). This divergence may be related in part to the lack of a precise definition of the clinical activities of

a pharmacist. Participation in health team meetings, for example, was analyzed separately in PNAUM. In this topic, the national average was close to that observed in São Bernardo do Campo for the monthly participation in meetings of the health team (Araújo *et al.*, 2017). Other similar indicators between PNAUM and this study included high participation in programs for the prevention and control of hypertension and diabetes (Araújo *et al.*, 2017).

The proportion of pharmacists in São Bernardo do Campo who provided pharmaceutical consultation was very high (37.5%), considering the scenario of Pharmaceutical Care in Brazil (Araújo *et al.*, 2008). Pharmaceutical consultation is an activity recommended since the launch of the foundations of Pharmaceutical Care (Hepler, Strand, 1990). Unfortunately, its inclusion in primary health care has been a slow process, especially because of the existing paradigm that pharmacotherapy supervision is incumbent on doctors and nurses (Berenguer *et al.*, 2004). Initiatives to include pharmaceutical consultation in SUS are sporadic, but the results are encouraging. As an example, a program including pharmaceutical consultations was able to improve the control of diabetes and hypertension, without increasing the costs of treatment (Obreli-Neto *et al.*, 2015).

Some aspects of pharmacists and UBS from São Bernardo were analyzed as factors in the occurrence of Pharmaceutical Care activities. No associations with statistical significance were found. It is possible, although unlikely, that the characteristics of the pharmacist (such as time since graduation and having a postgraduation degree) and the UBS (such as the ratio of the active population to the number of professionals working in the unit's pharmaceutical service) have no influence on the frequency of Pharmaceutical Care activities. But it is also admissible that the inability to detect any association has occurred because of the small sample size. Unfortunately, it is not possible to increase the number of interviewees, since all the primary care pharmacists of São Bernardo do Campo were included. For this reason, some trends are discussed below.

It was noticed that analysis of the prescriptions dispensed at UBS was more frequent among pharmacists who had been working in the facility for a longer time. In other words, greater experience of the pharmacist at the UBS, possibly including his or her familiarity with the service and the health care team, could create better conditions for the analysis of prescriptions. This activity aims to minimize problems related to the use of medications, identifying and correcting any mistakes and inaccuracies in prescription. It also allows optimization of the combination of drugs chosen, especially in cases of polypharmacy. Thus, prescription analysis is a tool that provides better outcomes in pharmacological treatment (Tan *et al.*, 2014). In SUS, prescription analysis performed by a pharmacist can stimulate the use of the essential drug list, increase the number of prescriptions fully dispensed and reduce the number of drugs prescribed for patients with multiple prescriptions (Melo, Castro, 2017).

In relation to home visits by the pharmacist, two trends were verified. These visits occurred more frequently in UBS with more professionals in the pharmaceutical service and in UBS that do not dispense psychotropic drugs. In both cases, the availability of time to conduct out-of-unit visits seems to be the main issue. With more assistants and no need to worry about attributions related to the dispensing of controlled drugs, the pharmacist would have more time for home visits.

The insertion of pharmacists in the primary care system is an ongoing process across the world. Several recent studies describe experiences in all continents (see, for instance, Campbell, Braund, Morris, 2017;

Gillespie, Dolovich, Dahrouge, 2017; Gregório, Cavaco, Lapão, 2017). Comparison of results is not a simple task because of differences in the organization and operation of health systems. Benson *et al.* (2019) compiled a list of pharmacist activities in general practice from various countries. The study exposed the complexity of pharmacist contributions in primary care: 48 different competences were identified, and seven major categories were needed to organize them. The most common activity registered in this review was addressing adherence issues to pharmacological treatment. Pharmacists from São Bernardo were more involved in prescription analysis and patient groups. It is valuable to know what pharmacists are doing in primary care, for identification of successful initiatives to inspire putative new strategies and for improvement of the health system. Additionally, such information is needed for planning new curricula in Pharmacy education that includes the required competences for the future.

Perceptions of pharmacists concerning viability of Pharmaceutical Care in general practice are also informative. Pharmacists consider lack of time an important barrier for direct activities with patients (Eades, Ferguson, O'Carroll, 2011). Some support for that belief was found in São Bernardo. Preliminary evidence suggests that pharmacists with fewer assistants and more attributions are less available for activities beyond delivering medicines. A short time in the position may also be a negative factor. In this context, the conception of a "non-dispensing pharmacist" discussed in the literature is very opportune (Hazen *et al.*, 2016). Released from more traditional responsibilities, those clinical pharmacists would focus all their actions on patients.

Among the limitations of this study may be mentioned: the small number of interviewees, the use of a novel instrument, and indirect evaluation of the Pharmaceutical Care activities through the reports of the pharmacists. Regarding the sample size, although reduced, all pharmacists in the municipality were studied. The instrument used is a form consisting of direct questions, drawn from recommendations found in official documents and regulations for Pharmaceutical Services and Pharmaceutical Care. Finally, indirect evaluation is the simplest and fastest way to simultaneously check various activities of pharmacists. Evaluation of the Pharmaceutical Services offered in SUS by the PNAUM survey was also based on reports (from managers, health professionals and users of the system).

In conclusion, this study showed that Pharmaceutical Services are structured in primary care in São Bernardo do Campo and many activities of Pharmaceutical Care are offered in its UBS.

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