# Influence of pharmacists' opinions on their dispensing medicines without requirement of a doctor's prescription

Francisco Caamaño / Manuel Tomé-Otero / Bahi Takkouche / Juan Jesús Gestal-Otero Department of Preventive Medicine and Public Health. University of Santiago de Compostela. Santiago de Compostela. A Coruña. Spain.

#### **Abstract**

Objective: To assess the influence of pharmacists' opinions on their dispensing medicines with a «medical prescription only» label without requiring a doctor's prescription.

Methods: We performed a cross-sectional study of 166 community pharmacies in northwest Spain. The opinions of pharmacists on the following were collected as independent variables through personal interview: a) physicians' prescribing practices; b) the pharmacist's qualifications to prescribe; c) the responsibility of the pharmacist regarding the dispensed drugs; d) the customer' qualifications for self-medication; and e) the pharmacist's perception of his or her own work. The dependent variable was the pharmacist's demand for a medical prescription for 5 drugs, which in Spain require a prescription. Multiple linear regression models were constructed.

Results: The response rate was 98.8%. A total of 65.9% of pharmacists reported dispensing antibiotics without a prescription. This percentage was 83.5% for nonsteroidal anti-inflammatory drugs, 46.3% for angiotensin-converting enzyme inhibitors, 13.4% for benzodiazepines, and 84.8% for oral contraceptives. Further results showed that pharmacists with a heavier workload and those who underestimated the physicians' qualifications to prescribe but overestimated their own qualifications to prescribe less frequently demanded medical prescriptions. In contrast, pharmacists who stressed the importance of their duty in rationalizing the consumption of drugs more frequently demanded medical prescriptions.

Conclusion: Our results suggest that to increase the quality of dispensing: a) the importance of the pharmacist's duty in controlling drug consumption should be stressed; b) pharmacies' workload should be optimized; and c) perceptions of physicians' prescribing practices among pharmacists should be improved.

**Key words:** Prescription requirement. Cross-sectional study. Community pharmacist.

#### Resumen

Objetivo: Evaluar la influencia de las opiniones de los farmacéuticos que no solicitan receta médica para dispensar fármacos que la requieren para su venta.

Métodos: Se ha llevado a cabo un estudio transversal sobre una muestra de 166 farmacéuticos de oficina de farmacia en la provincia de A Coruña. Las opiniones de los farmacéuticos, variables e independientes, fueron medidas mediante entrevista personal. Se valoraron las opiniones siguientes: a) prácticas prescriptoras de los médicos; b) cualificación de los farmacéuticos para prescribir; c) la responsabilidad de los farmacéuticos sobre los medicamentos dispensados; d) la cualificación de los clientes para automedicarse, y e) la percepción de los farmacéuticos sobre su trabajo. La exigencia de receta por parte del farmacéutico para 5 fármacos, que en España deben dispensarse con receta, fue la variable dependiente que se tuvo en cuenta. Se construyeron modelos de regresión múltiple.

Resultados: La participación fue del 98,8%. Un total del 65,9% de los farmacéuticos afirmaron dispensar antibióticos sin receta. Este porcentaje fue del 83,5% para los antiinflamatorios no esteroideos, 46,3% para los inhibidores de la enzima de conversión de la angiotensina, 13,4% para las benzodiazepinas y 84,8% para los anticonceptivos orales.

Además, los resultados muestran que los farmacéuticos con mayor carga de trabajo y los que califican peor la prescripción de los médicos, y que en mayor medida consideran que ellos mismos están capacitados para prescribir, exigen menos recetas médicas. Por el contrario, los farmacéuticos que otorgan mayor importancia a la racionalización en el consumo de fármacos exigen receta más frecuentemente.

Conclusión: Nuestros resultados indican que para el incremento en la calidad de la dispensación el sistema debería lograr: a) incrementar la importancia que los farmacéuticos otorguen al control y la racionalización del consumo de fármacos; b) adecuar la carga de trabajo de las farmacias, y c) mejorar la percepción que los farmacéuticos tienen de las pautas prescriptoras de los médicos.

Palabras clave: Exigencia de receta. Estudio transversal. Farmacéutico.

Correspondencia: Francisco Caamaño Isorna. Departamento de Medicina Preventiva y Salud Pública. Facultad de Medicina. San Francisco, s/n. 15705 Santiago de Compostela. A Coruña. Spain.

Correo electrónico: mrpaco@usc.es

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#### Introduction

he professional activity of the community pharmacist has changed dramatically in the last decades. With the increase of ready-to-use drugs, the activity in a pharmacist's laboratory experienced a sharp decrease<sup>1</sup>. Today, the main health-related activity of a pharmacist is to assure quality of dispensing<sup>2,3</sup>.

Several studies associated quality of dispensing with factors such as pharmacist's age, educational background and social and demographic factors of the practice<sup>4-6</sup>. The pharmacists' opinions about their activity have been proposed as potential determinants of the quality of dispensing<sup>7,8</sup>. However, these factors have been analyzed individually and so far, no comprehensive theoretical model has been proposed to explain their effect.

According to previous studies<sup>2,7-12</sup>, we propose a model to investigate the opinions of the pharmacist that are associated with dispensing. Following this model, dispensing by the pharmacists is determined by their opinions about the prescription practice of the physicians, about their own competence to prescribe and about the pharmacists' responsibility in the control of consumption of medicines. The model also considers that the dispensing practice is subject to changes that are due to the workload of the pharmacist and to the socio-economic and socio-cultural characteristics of the customers.

The aim of this study is to assess the validity of the model proposed and to measure the effect on the quality of dispensing (measured as the requirement of a medical prescription to dispense) exerted by each opinion.

#### **Methods**

Design, population, sample

We carried out a cross-sectional study of the population of community pharmacists in Northwest Spain (n=875, who work in 490 pharmacies). We used multistage cluster sampling (pharmacies are clusters and pharmacist are the population). Pharmacies were used as sampling units in the first stage (n=150), and pharmacists were sampled at random within pharmacies. All pharmacists present during the interviewer's visit were selected (n=166). The schedule of the visit to the pharmacy was selected at random during the opening hours.

Data collection

We collected data collection by means of a personal interview (February and March, 2002) with a closed

questionnaire, a method that can maximize participation 13.

The interviews were carried out by a trained qualified interviewer (pharmacist). The questionnaire included four blocks of questions: *a)* socio-demographic variables and variables of the formation of the pharmacist; *b)* practice in relation to requirement of prescription to dispense different drugs; *c)* level of agreement with 24 items about prescription practice of the doctors, pharmacist's qualification to prescribe, responsibility of the pharmacist about dispensed drugs, clients' qualification for self-medication, and pharmacists' perception of their work, and *d)* services offered in the pharmacy and characteristics of its socio-cultural and socio-economic surroundings.

Independent variables

Pharmacists were asked about whether they had specialty training. In Spain, pharmacists may work either with or without specialty degrees. The three-year special training is officially regulated and takes place in pharmacies of the National Health Service. During the three year special training, the pharmacists work in a hospital pharmacy and they study clinical pharmacology, pharmacoepidemiology and clinical epidemiology. So, specialty is a dichotomous variable: yes or no.

Pharmacists were asked about their work status. Two situations were considered: a pharmacist who is the owner or responsible for the pharmacy and a pharmacist who is under contract. So, work status is a dichotomous variable: owner or responsible (yes or no).

The models also included two variables that measure the work environment of the pharmacist: number of pharmacists in the pharmacy: number of pharmacist who work in the pharmacy (this variable is used as a proxy of the customers per day of the pharmacy) and the socio-economic level of the population attended. The socio-economic level of the population was valued through the perceptions of the pharmacists in charge, by means of a 5-point Likert-like response scale ranging from «very low» to «very high».

The opinions were measured by asking the pharmacists about their level of agreement with 16 items (from 0 = completely in disagreement, to 10 = completely in agreement). The items were grouped in 5 topics: prescription practice of the doctors (3 items); pharmacist's qualification to prescribe (3 items); responsibility of the pharmacist about dispensed drugs (5 items); clients' qualification for self-medication (2 items), and pharmacists' perception of their work (3 items).

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