

ASSESSMENT OF PATIENT CARE INDICATORS AT COMMUNITY PHARMACIES IN BANDUNG CITY, INDONESIA

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Abstract. Community pharmacies supply medications; therefore are involved in the patient care process. The objective of this study was to study the quality of patient care given by these pharmacies. We conducted a cross sectional study of 13 community pharmacies in Bandung City, Indonesia. Data collected were patient care indicators whose standard is defined by the World Health Organization (WHO). These were assessed by observing 1,961 subjects who presented to the studied pharmacies to receive their medication. The average dispensing time was 62 seconds. Ninety-six percent of the prescribed medicine was dispensed correctly and 99% of the prescribed medication was sufficiently labeled. Only 88% of patients were able to repeat the correct dosage regimen of their prescribed medicines. Although the average dispensing time was greater than the recommended 60 seconds, the dispensing time ranged from 3 to 435 seconds. Greater attention should be focused on making sure the patient understands the dosage regimen correctly to ensure patient compliance with the correct regimen.

Keywords: patient care indicator, community pharmacy, pharmacy practice, Indonesia

INTRODUCTION

Many factors can affect the medication compliance, including quality of dispensing and adequate labeling (Karande *et al*, 2005), both of which require the correct interpretation of the prescriber's instructions and accurate preparation and labeling of the prescribed medicine.

Therefore, any error in the dispensing and labeling process may interfere with patient care (James *et al*, 2009). As the primary dispensers of medications, pharmacists are responsible for reinforcing patient knowledge about their prescribed medications. The pharmacists' quality of labeling, time spent informing the patient and communication skills can affect patient compliance rates (Garjani *et al*, 2009).

Community pharmacies usually responsibly supply medicines in accordance with prescriptions (WHO, 1994). They have expanded their role to be more involved in the management of pharmaceutical care (Panvelkar *et al*, 2009).

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However, relatively few studies have examined patient care practices in the community pharmacy setting. A previous study reported 50% of patients failed to take their medication correctly due to inappropriate prescribing and dispensing practices (WHO, 2002). A significant percentage of the world's population lacks access to essential medicine (Le Grand *et al*, 1999). These problems may result in inappropriate patient medication demands, reduced attendance rates due to out-of-stock medicine and loss of patient confidence in the health system (Le Grand *et al*, 1999; WHO, 2002). Good prescribing practice requires a professional collaboration between physicians and pharmacists to serve the patients. Correctly prescribing medication does not guarantee drugs are used properly if they are inadequately labeled or inadequate drug information is given (Le Grand *et al*, 1999).

We determined to evaluate the level of patient care in a community pharmacy setting by assessing several factors for adequate drug dispensing as specified in a WHO patient care indicator instrument (WHO, 1993). The results would show whether patient care at community pharmacies meets accepted standards for pharmacy practice and to serve as a baseline for continuous monitoring.

MATERIALS AND METHODS

Study design and setting

A cross sectional study was carried out at 13 selected community pharmacies in Bandung City, Indonesia. A random sample of patients representing a variety of health problems and ages were included in this study. Patients selected in this study were enrolled from February to May 2013.

The sample size was determined according to the WHO manual on the investigation of drug use in health facilities (WHO, 1993). However, due to the limited number of community pharmacies included, we increased the sample number of prescriptions per facility to a minimum of 150 instead of using the recommended minimum sample size of 20. Thus, a total of 1,961 patients were included in the study. The study protocol was approved by the Universitas Padjadjaran Ethics Committee, and all subjects provided informed consent prior to participation.

Data collection

Data collection was performed by directly observing pharmacy practices in the community pharmacies, without identifying the individuals involved. A standard patient care indicator form was used to collect the required variables (WHO, 1993). Patients were randomly selected at each center, and the patient care indicators were as follows: average dispensing time, percentage of drugs actually dispensed, percentage of drugs adequately labeled, and patient knowledge of the correct dosage. To assess patient knowledge, subjects were asked to repeat the basic information given by pharmacist regarding the dosage regimen for their prescribed medicine. We also assessed the average preparation time for each prescription.

The average consultation time is also a WHO standard patient care indicator; however, we were unable to assess this variable because the consultation between the pharmacist and patient usually occurred during the dispensing process; thus, it was not feasible to assess the consultation time only. Data collectors at all the selected community pharmacies followed the WHO guidelines and methods to obtain the required data.

Table 1
Average preparation and dispensing time for prescribed medicines at 13 selected community pharmacies in Bandung City, Indonesia.

| Variable | Results |
|--------------------------|---------|
| Average preparatory time | 314 |
| Average dispensing time | 62 |

RESULTS

One thousand nine hundred sixty-one patients at 13 community pharmacies in Bandung City were assessed between February-May 2013 (Table 1). The average medication preparation time was 314 seconds before they were called to the dispensary counter. The average dispensing time was 62 seconds from arriving at the dispensary counter until they left.

Four thousand seven hundred thirty-two of 4,954 prescribed medicines (96%) were dispensed (Fig 1A), and 4,685 of 4,732 dispensed medicines (99%) were adequately labeled (Fig 1B). Eighty-eight percent of patients (1,734 of 1,961 patients) were able to repeat the correct dosage regimen for their prescribed medicines (Fig 1C).

DISCUSSION

To our knowledge, this is the first assessment of patient care indicators in Indonesian pharmacies. The WHO patient care indicators reflect a patient's experience at a health facility (Nsimba, 2006) and may serve as a tool to assess the performance of the health facility. The average dispensing time was 62 seconds, which is above the recommended 60 seconds (El Mahalli *et al*, 2012); however, the times

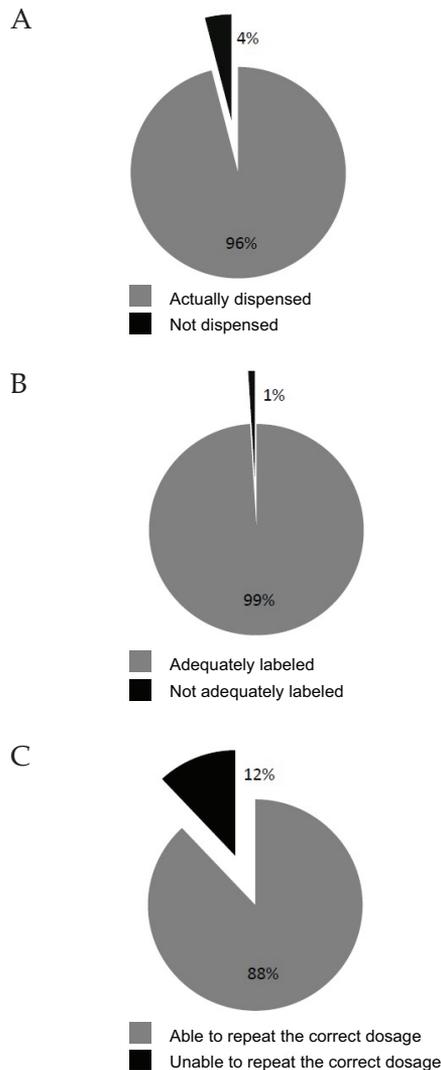


Fig 1—Medications (A) actually dispensed, (B) adequately labeled and (C) the patient's knowledge about their prescribed medicines at 13 selected community pharmacies in Bandung City, Indonesia.

varied widely (3 to 435 seconds). Since pharmacists are the final healthcare professional who see the patient before they take their medication, pharmacists need to provide sufficient information to ensure the patient will safely and appropriately take their medication (Ax *et al*, 2010; El

Mahalli *et al*, 2012). A short dispensing time may result in limited medication information to be given to the patient. In Indonesia, guidelines regarding the minimum amount of information given during drug dispensing are available, but there is no effective supervision to ensure implementation. This lack of oversight results in observed dispensing times of less than 5 seconds, which is insufficient to relay basic information to the patient.

In Indonesia, pharmacists are not entitled to any professional fees for patient counseling during the dispensation of prescribed medication. A professional fee for a pharmacist is a relatively new concept with few models to act as a guideline, especially at a community pharmacy (Chan *et al*, 2008). Larson (2000) suggested, in places where medical costs are not commonly covered by a third party, such as Indonesia, direct payment from the patient may be a viable option. A pharmacist professional fee may affect the level of responsibility and motivation regarding contact with patients, and could increase patient medication compliance.

The percentage of prescribed drugs actually dispensed was 96%, close to the optimal value of 100%. Patients are more likely to be compliant with taking their medication if they have easy access to their drugs at a community pharmacy; their health will benefit, and their trust in the health system will increase (WHO, 2002). The WHO recommends each drug label should contain the drug regimen, patient name and drug dose (WHO, 1993). Ninety-nine percent of the patients in our study had their prescriptions filled according to these recommendations. It is important to properly label medicines to ensure the correct medicine is given to the right patient, at the right dose, at the right

intervals and for the right length of time for maximum effectiveness (WHO, 1993).

Eighty-eight percent of the patients in our study were able to tell the dosage regimen of their medicine. Patient knowledge about their medication is essential to increase their compliance. Knowledge can be affected by several factors, including the quality of the consultation and the information given about the prescribed medicines. Therefore, pharmacists have an important role in relaying the information during the dispensing process.

Previous research by Ponnusankar *et al* (2004) found patient knowledge plays an important role in compliance with taking their medication. Patient knowledge about their medication may serve as a useful indicator of the quality of prescribing and dispensing. A poor knowledge about the dosing regimen may lead to a poor outcome or a dangerous situation and may increase the risk of toxicity due to their medication (O'Neil and Poirer, 1998). Patient knowledge about the correct dosing regimen may help avoid overdose of the drug and prevent adverse effects that could be harmful to the patient. Therefore, during dispensing of the medication, pharmacists should provide sufficient information to ensure the safety and appropriate use of medication by the patient (O'Neil and Poirer, 1998; Rantucci, 2006).

The idea that pharmacists are only medication dispensers has changed to include assessment of medication risk and a medication related consultation (Schommer *et al*, 2006). Many patients in Indonesia do not understand the pharmacist's contribution to their health care, assuming pharmacists only dispense medication. Hamoudi *et al* (2011) suggested the pharmacist's role as a drug professional should include being a patient advisor regarding

their medication. When pharmacists and physicians collaborate together, medications are more likely to be used safely and achieve the best health outcomes for the patient.

Although the average dispensing time among the 13 pharmacies studied was greater than the recommended 60 seconds, the times ranged from 3 to 435 seconds. Patients depend on information provided by the pharmacist. Regulators should consider the minimum information given to the patient during the dispensing process to ensure compliance with taking their medication properly.

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