

BACKGROUND

The safe use of medications is an important component of many patient safety initiatives, and is a core mandate of the pharmacy profession. The introduction of many new drugs and technologies necessitates constant vigilance from pharmacists and healthcare professionals for the detection of new kinds of errors. In Spain medication errors cause between 4.7% and 5.3% of hospital admissions. In this framework, a study has been carried out at a community pharmacy to evaluate the incidence, type and potential causes of dispensing errors.

METHODS

A Prospective study was conducted at a community pharmacy in Madrid (Spain), a large urban 12-hour pharmacy. Data was collected between February 2011 and April 2011 by three investigators (two pharmacists and one pharmacy technician). Every prescription filled while the investigator was present was inspected. Additionally, a sample of will-call prescriptions (filled before the arrival of the investigator and waiting to be picked up) were inspected. Investigators compared the physician's written order to the contents and label of each new prescription (patient presented a new prescription to the pharmacy staff). Any deviations from the prescribed order were noted as errors. All errors were confirmed and then corrected by an available pharmacist before the prescription was dispensed to a patient. Investigators observed a minimum of 200 prescriptions daily. Errors observed during the study were categorized according to into two major groups: content and labeling errors. Content errors included dispensing a wrong medicine, wrong drug strength, wrong time, wrong quantity, and wrong dosage form, an expired or almost expired medicine, patient name and omission (i.e. failure to dispense). Labeling errors consisted dispensing with the wrong information on the label, namely incorrect: patient name, drug name, drug strength, instruction (including incorrect dosage), drug quantity, dosage form, and other labelling errors. Researchers collected information concerning the staff person who commits the error, namely, pharmacist or pharmacy technicians.

Figure 1. Sex and contribution scheme

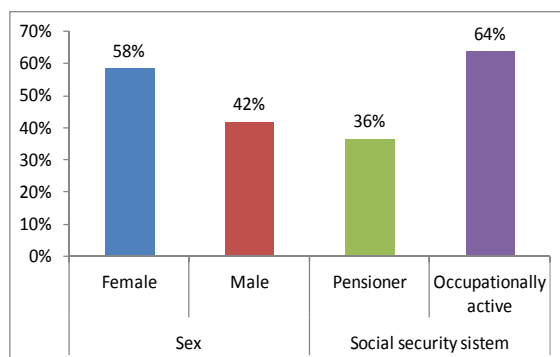


Figure 2. Data stratified by type of error

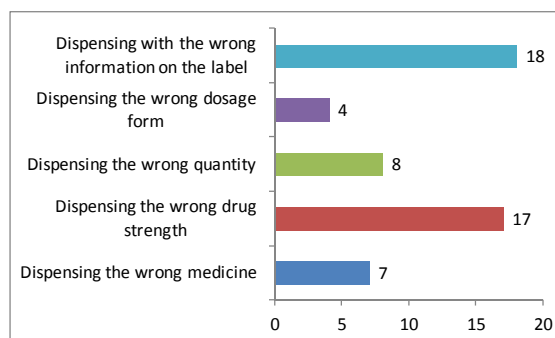


Figure 3. Dispensing errors by category

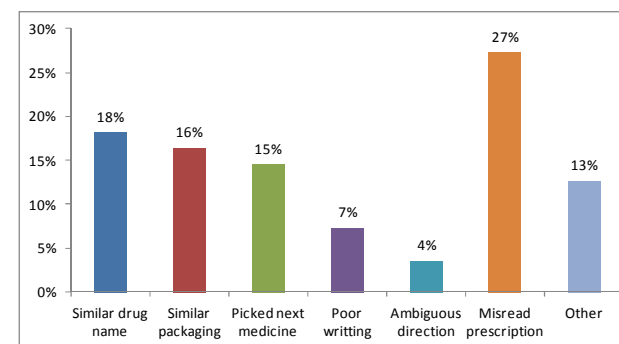
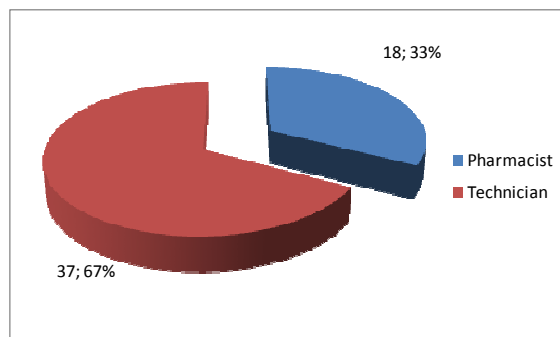


Figure 4. Type of staff member who made the error



RESULTS

In all, 12 000 prescriptions were dispensed and 55 incidents were recorded during the 3-months study period. The rate of incidents per 1000 items dispensed was 4.58 (95%CI 4.45–4.71). Figure 1 shows the demographic characteristics of the population and figure 2 presents the error data stratified by type of error. Seventeen incidents (31.5%) were classified as a dispensing the wrong drug strength error (rate per 1000 items dispensed 4.22), followed by others dispensing errors (25.9%); while the remaining 42.6% were classified as dispensing errors related to dispensing the wrong quantity; dispensing the wrong medicine and dispensing the wrong dosage form to a greater extent. Figure 3 depicts the observed errors by type. And figure 4 shows that dispensing errors were significantly more likely to be made by the pharmacy technician.

CONCLUSION

The total dispensing error rate in the study sample was independent of other comparative studies. The most frequent error category was the "content error", while "wrong drug strength" and "wrong quantity" were the most prevalent in this category. The categories "labeling error" represented a small influence on the total error rate. Misread prescription, Similar drug name and Similar packaging were the most prevalent causes of dispensing error. Further research is necessary to evaluate this issue, not only on medication dispensing but also on administration and prescription.

