MEDICATION ERRORS AT THE OUTPATIENT PHARMACY IN A HOSPITAL IN ASEER REGION, KINGDOM OF SAUDI ARABIA

KHALED M ALAKHALI, SHAIK MOHAMMAD ASIF ANSARI, SIRAJUDEEN S ALAVUDEEN, NOOBU A KHAN

ABSTRACT
Background: There is paucity of data about medication errors in the Aseer region of Kingdom of Saudi Arabia, hence this study was conducted to detect the medication errors in the difference stages of medication use process such as prescribing, transcription, dispensing and administration.

Method: It was a retrospective study reviewing all the prescription for two month.

Results: 10% of prescribing errors (No. = 185), 0.37% (No. = 7) of dispensing errors, 0.48% (No. = 9) of administration errors were detected for the total 1,850 opportunities for errors registered. No transcription errors were observed.

Conclusion: Use of information technology systems may be versatile strategy to prevent medication errors and improve patient safety.

MEDICATION ERRORS – PRESCRIBING ERRORS – DISPENSING ERRORS – ADMINISTRATION ERRORS

RESUMEN
Objetivo: Existe una escasez de datos sobre los errores de medicación en la región de Aseer situada en Arabia Saudí, por lo tanto, este estudio fue realizado para detectar los errores de medicación en las diferentes etapas del proceso de uso de medicamentos como la prescripción, transcripción, dispensación y administración.

Método: Estudio retrospectivo donde se revisaron todas las prescripciones durante dos meses.

Resultados: Se detectaron 10% de errores de prescripción (n = 185), 0.37% (n = 7) errores de dispensación, 0.48% (n = 9) errores de administración para el total de las 1,850 posibilidades de error registradas. No se observaron errores de transcripción.

Conclusión: El uso de los sistemas informáticos puede ser una estrategia versátil para prevenir los errores de medicación y mejorar la seguridad del paciente.

ERRORES DE MEDICACIÓN — ERRORES DE PRESCRIPCIÓN — ERRORES DE DISPENSACIÓN — ERRORES DE ADMINISTRACIÓN

INTRODUCTION
A medication error is defined by the National Coordinating Council for Medication Error and Prevention (NCC MERP) as «any preventable event that may cause or lead to inappropriate medication use or patient harm, while the medication is in the control of the health care professional, patient, or consumer. Such events may be related to professional practice, health care products, procedures, and systems including: prescribing; order communication; product labelling, packaging and nomenclature; compounding; dispensing; distribution; administration; education; monitoring; and use». An error can occur at any point in these events. In Saudi Arabia, 40,000 medical errors complaints are filed yearly, a third of medical practitioners are banned from travel due to those complaints, and 80% of those complaints end without conviction. A study has reported that dispensing errors are a problem on a national level, at a rate of about four errors per day in a pharmacy filling 250 prescriptions daily. An estimated 51.5 million errors occur during the filling of three
billion prescriptions each year. Approximately one third of adverse drug events (ADE) are associated with medication errors. Errors are best corrected when real and potential errors are documented, reported and evaluated as part of a cycle of continuous quality improvement. However studies indicate a potential need to review medication error reporting systems in Saudi Arabia to heighten health professional awareness and improve the reporting culture. Thus the development of reporting and preventive strategies for avoiding medication errors is crucial in Saudi Arabia, as most errors, and their potentially serious adverse consequences are potentially preventable. However paucity of literature originating from Saudi Arabia, particularly in Aseer region on medication errors has lead us to carry out this study.

METHOD
Definition of medication errors. A medication error was defined as an error in the medication process: ordering, transcription, dispensing, and administration, and discharge summaries. Errors included wrong as well as missing actions.

This study was a retrospective study reviewing all the prescription for two month period September and October 2013. The study was conducted at the outpatient pharmacy department of a Hospital in Asha, Aseer region by daily and weekly checking of the pharmacy records. All the data were collected using a form. The data was analyzed by using Microsoft Office Excel 2007.

RESULTS
Opportunities for errors were independently summed up for each stage in the medication process. In total 1,850 opportunities for errors were registered of which 201 (10.86%) errors were detected. Table 1 shows the frequency of medication errors in different stages of medication process.

DISCUSSION
Our results on medication errors (10.86%) indicate the need for improvement in most of the stages of medication process. None of the errors identified had any serious impact on the patient’s health. Safe and effective prescribing requires identification of the need for a drug and selection of the correct drug, together with the route, form, dose, frequency and duration, for the individual patient. Error can occur in this stage. Our investigation revealed that most of the errors in medication process occur at the stage of prescribing accounting to 10%. Studies have indicated that the person who knows most about the potential cause of a specific prescribing error is the prescriber him/herself. Other health care workers, perhaps intimately involved in addressing that error, may be aware of some of what had happened, but generally only the prescriber is aware of how decisions were made. The results of our study are in agreement with a previous study. No incidence of transcription errors were found between the prescriber and pharmacy in this investigation. This may be because of use of the latest computer and internet technology to replace the traditional paper-based prescription forms with electronic transfer of prescriptions. A dispensing error is a deviation from an interpretable written prescription or medication order including written modifications to the prescription made by a pharmacist following contact with the prescriber or in compliance with pharmacy policy. Any deviation from professional or regulatory references, or guidelines affecting dispensing procedures, was also considered a dispensing error. Dispensing error rate is one indicator of drug distribution quality, from the patient’s perspective, in a prescription filling operation. Though the overall dispensing error are relatively low, but only one third of these dispensing errors are intercepted by nurses before medication administration, many errors reach the patients. Therefore dispensing errors are important targets for patient’s safety. The results from our study depicts that only 0.37% errors occurred in the dispensing stage and are in agreement with the previous studies. Thus implementation of bar-code technology may significantly reduce the rate of dispensing errors and potential ADE due to dispensing errors. In most hospitals, medication administration error MAE reporting relies on the nurse who discovers an error to initiate an error report, whether the error was committed by that nurse or someone else. These errors may be because of administering the wrong drug, strength of the drug, or drug dose, confusion over “look-alike” and “sound-alike” drugs, incorrect routes of administration, miscalculations. Our investigation revealed 0.48% of administration errors. However some reports state that though in actual practice they may severely occur, but are under reported by the staff due to their attitudes toward reporting systems. Thus this further corroborates the need of barcode technology as a safety net in medication administration.
CONCLUSION
The outpatient pharmacy in Ascer hospital is moderately developed. Further improvement can be achieved by increasing the use of new technologies such as bar-code technology and automated medication distribution to reduce the incidence of medications errors additionally.

REFERENCES