



King Saud University
Saudi Pharmaceutical Journal

www.ksu.edu.sa
www.sciencedirect.com



ORIGINAL ARTICLE

Medication safety practices in hospitals: A national survey in Saudi Arabia

Hisham Aljadhey^{a,*}, Abdulaziz Alhusan^a, Khalid Alburikan^a, Mansour Adam^a, Michael D. Murray^b, David W. Bates^c

^a Medication Safety Research Chair and Department of Clinical Pharmacy, College of Pharmacy, King Saud University, Saudi Arabia

^b Purdue University College of Pharmacy and Regenstrief Institute, Indianapolis, IN, USA

^c Harvard Medical School and Brigham and Women's Hospital, Boston, MA, USA

Received 2 June 2012; accepted 31 July 2012

Available online 8 August 2012

KEYWORDS

Medication safety;
Hospitals;
Saudi Arabia

Abstract *Background:* Medication errors in hospitals are a worldwide concern. The World Health Organization has recommended the implementation of basic applications in healthcare systems to improve medication safety, but it is largely unknown whether these recommendations are adhered to by hospitals. We assessed the presence of core medication safety practices in Saudi Arabian hospitals.

Methods: We developed and validated a survey to assess medication safety practices in hospitals. Major headings included Look-Alike Sound-Alike (LASA) medications, control of concentrated electrolyte solutions, transitions in care, information technology, drug information and other medication safety practices. Trained pharmacists visited samples of hospitals from all regions of Saudi Arabia.

Results: Seventy-eight hospitals were surveyed. Only 30% of the hospitals had a medication safety committee and 9% of hospitals had a medication safety officer. Only 33% of hospitals had a list of LASA medications and 50% had a list of error-prone abbreviations. Concentrated electrolytes were available in floor stock in 60% of the hospitals. No hospital involved pharmacists in obtaining medication histories and only 37% of the hospitals provided a medication list to the

* Corresponding author. Address: Director of Medication Safety Research Chair, Vice Dean for Academic Affairs, College of Pharmacy, King Saud University, P.O. Box 2475, Riyadh 11451, Saudi Arabia. Tel.: +966 530039008.

E-mail address: haljadhey@ksu.edu.sa (H. Aljadhey).

Peer review under responsibility of King Saud University.



Production and hosting by Elsevier

patients at discharge. While 61% of hospitals used a computer system in their pharmacy to enter prescriptions, only 29% of these hospitals required entry of patient's allergies before entering a drug order.

Conclusions: Core practices to improve medication safety were not implemented in many hospitals in Saudi Arabia. In developing countries, an effort must be made at the national level to increase the adoption of such practices.

© 2012 King Saud University. Production and hosting by Elsevier B.V. All rights reserved.

1. Introduction

Medication errors occurring in hospitals have become a world-wide concern for healthcare policy makers, professionals and the public. These errors harm at least 1.5 million United States residents annually, and treating injuries caused by these errors cost at least 3.5 billion dollars (Aspden et al., 2006). In one U.S. study in two academic hospitals, the incidence of adverse drug events (ADEs) for hospitalized patients was estimated to be 6.5 per hundred admissions (Bates et al., 1995). A more recent study in community hospitals found an even higher rate of ADEs of 15 per hundred admissions (Hug et al., 2010). In Australia, up to 4% of all hospital admissions are medication-related (Runciman et al., 2003). In Saudi Arabia, two recent studies estimated that the prevalence of prescribing errors in hospital inpatient ranges between 13 and 56 per 100 medication orders (Al-Dhawailie, 2011; Al-Jeraisy and M., 2011). These data suggest that medication safety is an important international contributor to morbidity and costs of healthcare.

In the past decade, research has shown that many interventions could decrease the frequency of medication errors. Many of these interventions include the use of information technology and automation, while others use other approaches such as involving a pharmacist with the medical team or the application of core practices aimed at preventing ADEs (Aspden et al., 2006; Bates et al., 1998; Poon et al., 2006; Cohen et al., 2005; Vira et al., 2006; Gleason et al., 2004; Cavin and Sen, 2005; Nester and Hale, 2002; Bond et al., 2000, 1999, 2002; McFadzean et al., 2003; Tam et al., 2005; Strunk et al., 2008). For example, the use of computerized physician order entry reduced the serious medication error rate by 55% (Bates et al., 1998) and the use of bar-code technology minimized the rate of dispensing errors by 31% (Poon et al., 2006). One study suggested that having a medication safety officer in the hospital may be associated with a lower rate of ADEs (Cohen et al., 2005). Also, studies repeatedly show that ascertaining a patient's medication history at admission by a pharmacist decreases medication errors (Vira et al., 2006; Gleason et al., 2004; Cavin and Sen, 2005; Nester and Hale, 2002; Bond et al., 2000, 1999, 2002; McFadzean et al., 2003; Tam et al., 2005; Strunk et al., 2008).

Though research has shown the value of these interventions in reducing medication error rates, the extent to which they are implemented in hospitals around the world is poorly understood. In 2005, the World Health Organization (WHO) launched the World Alliance for Patient Safety. In 2007, the Alliance recommended patient safety solutions to help prevent medication errors and adverse events. Adherence to the recommendations of the WHO regarding medication safety practices by hospitals is unknown. No study had previously been conducted in Saudi Arabia to assess the current state of

medication safety practices in hospitals. Understanding the current status of activities and practices would guide policy makers and healthcare professionals on areas for improvement. The aims of the current study were to assess the presence of core medication safety practices in Saudi Arabian hospitals and assess the association between safety practices and hospital characteristics.

2. Methods

2.1. Design and setting

In Saudi Arabia, hospitals are either governmental or private. Governmental hospitals can be classified as either Ministry of Health or non-Ministry of Health hospitals. Healthcare in rural areas is provided mainly by the Ministry of Health which runs more than 220 hospitals in all regions of Saudi Arabia. Other governmental hospitals include National Guard hospitals, armed forces hospitals, security forces hospitals and specialized hospitals. Private hospitals have increased in number and size over the past few years and are mainly concentrated in major cities.

To obtain a national estimate of the frequency of implementation of medication safety practices in hospitals, we stratified hospitals by region and type, and then a convenient sampling technique was applied. Saudi Arabia was divided into five regions (central, north, south, east and west). We selected stratified convenient samples of hospitals from each region in three categories: Ministry of Health hospitals, other government hospitals, and private hospitals. Hospitals from large cities and small towns were studied. The study was approved by the Medication Safety Research Chair committee and an approval was obtained from each hospital before survey completion.

2.2. Survey administration

Pharmacists interviewed the pharmacy director or inpatient supervisor to complete the survey. Interviewers were trained by one of the study investigators on medication safety elements and each section of the survey was explained in detail. Between March and June 2009, trained pharmacists visited conveniently selected hospitals in all regions of Saudi Arabia. Prior to visiting a hospital, a fax was sent which was followed by a phone call to the pharmacy director to schedule a meeting to complete the survey. At the beginning of the meeting, the pharmacists explained the purpose of the study and assured that the name of the hospital would be kept confidential. Then, pharmacists obtained answers to the survey's questions during a 1 h meeting.

Download English Version:

<https://daneshyari.com/en/article/2509485>

Download Persian Version:

<https://daneshyari.com/article/2509485>

[Daneshyari.com](https://daneshyari.com)