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ORIGINAL ARTICLE

Challenges to and the future of medication safety in Saudi Arabia: A qualitative study

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Abstract *Background:* Medication safety is a global concern among healthcare providers. However, the challenges to and the future of medication safety in Saudi Arabia have not been explored.

Objectives: We explored the perspectives of healthcare practitioners on current issues about medication safety in hospitals and community settings in Saudi Arabia in order to identify challenges to improving it and explore the future of medication safety practice.

Methods: A total of 65 physicians, pharmacists, academics and nurses attended a one-day meeting in March 2010, designed especially for the purpose of this study. The participants were divided into nine round-table discussion sessions. Three major themes were explored in these sessions, including: major factors contributing to medication safety problems, challenges to improving medication safety practice, and participants' suggestions for improving medication safety. The round-table discussion sessions were videotaped and transcribed verbatim and analyzed by two independent researchers.

Results: The round-table discussions revealed that major factors contributing to medication safety problems included unrestricted public access to medications from various hospitals and community pharmacies, communication gaps between healthcare institutions, limited use of important

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technologies such as computerized provider order entry, and the lack of medication safety programs in hospitals. Challenges to current medication safety practice identified by participants included underreporting of medication errors and adverse drug reactions, multilingualism and differing backgrounds of healthcare professionals, lack of communication between healthcare providers and patients, and high workloads. Suggestions for improving medication safety practices in Saudi Arabia included continuous education for healthcare professionals and competency assessment focusing on medication safety, development of a culture that encourages medication error and adverse drug reactions reporting, use of technology proven to decrease medication errors, and promotion and implementation of national patient safety initiatives.

Conclusions: Healthcare professionals have identified major challenges and opportunities for medication safety in Saudi Arabia. Policy makers and practitioners should consider these factors when designing future programs aimed at improving the safe use of medications.

1. Introduction

Medication errors are common and preventable adverse drug events (ADEs) represent a major cause of harm. The incidence of medication errors and ADEs has been studied in many epidemiologic studies, particularly in developed country contexts (Bates et al., 1995; Gandhi et al., 2003; Morimoto et al., 2011; Benkirane et al., 2009; Honigman et al., 2001; Leape et al., 1995; Thomsen et al., 2007). For example, in the United States (US), one study found that 6.5% of hospitalized adult patients experienced ADEs, and 28% of these events were preventable (Bates et al., 1995). A more recent study from Japan reported an ADE incidence of 29 (95% CI; 27.7–30.7) per 100 admissions and medication errors of 15 (95% CI; 13.7–16.0) per 100 admissions. In Morocco, ADEs were found to occur at a rate of 11.5 (95% CI; 9.1–13.9) per 100 admissions (Benkirane et al., 2009). In the US, it is estimated that medication errors harm at least 1.5 million people, kill 106,000 people, and cost at least $3.5 billion annually (Philip et al., 2006).

The overall incidence of ADEs in Saudi Arabia is unknown. However, studies have reported a prescribing error incidence of 8–56 per 100 medication orders in hospitalized patients (Al-Dhawailie, 2011; Al-Jeraisy et al., 2011). It has been reported that 35% of medications dispensed without prescription in Saudi Arabia are prescription only medications (Bawazir, 1992). In addition, it was found that 37% of patients had a medication discrepancy at the time of hospital admission (AbuYassin et al., 2011), which could have been prevented by accurate reconciliation of medications.

The current situation and healthcare practitioner's perspectives about medication safety practices in Saudi Arabia are unknown. In this study, we adopted a qualitative approach to explore the views and opinions of healthcare practitioners toward current issues about medication safety in hospitals and community settings in Saudi Arabia, to identify challenges to improving it; and explore the future of medication safety practice.

2. Methods

2.1. Study design

We conducted an exploratory qualitative enquiry using group discussions for the generation of data. A topic guide was developed after conducting literature reviews of similar studies (Hartnell et al., 2006, 2012; Phipps et al., 2009). The topics included in the guide for discussions were: current situation of medication safety practice in Saudi Arabia, medication safety issues, challenges and obstacles of medication safety and suggestions to improve medication safety in the country (see Appendix 1).

2.2. Sampling and recruitment

A list of experts in medication safety in Saudi Arabia was generated based on the authors' recommendations and personal contacts. Then, a personal email or phone invitation was sent to those experts to participate in a one-day meeting in Riyadh, Saudi Arabia. Participants came from government hospitals, private hospitals, academia, pharmaceutical industries and the Ministry of Health.

2.3. Data generation

Participants were divided into nine round-table discussion groups. Because of the culture in Saudi Arabia, females and males were seated in separate tables. Where possible, each group included at least one pharmacist, a physician and a nurse to facilitate discussion and the exchange of ideas between professionals from different backgrounds (Kitzinger, 1994). A facilitator was assigned in each group to facilitate the discussion in the three main areas of interest. The participants' filled a form to document their response to each question. A summary of the group's opinion in each theme was generated. In a plenary discussion, each facilitator shared their group summary with all participants by the help of a moderator. Thereafter, the moderator gave the chance for any participant to comment or add new points. During the discussion, if the moderator felt that the participant's statement was useful, further questions were asked, for example, "would you elaborate more on this?" The language of both, the plenary discussion and the round-table discussion was English.

2.4. Data coding and analysis

The plenary discussion was videotaped, transcribed verbatim and coded. Then, common themes were generated from the transcript by two independent researchers, using thematic content analysis (Felicity, 2002). The final coding and themes were approved by four authors through consensus. Confidentiality