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ORIGINAL ARTICLE

Community pharmacists' attitudes toward dispensing errors at community pharmacy setting in Central Saudi Arabia

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KEYWORDS

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Abstract *Purpose:* The main objective of this study was to survey pharmacists' attitudes toward dispensing errors in community pharmacy settings in Saudi Arabia.

Methods: A cross-sectional survey of community pharmacists in Riyadh region, Saudi Arabia was conducted over a period of 6 months from March through September 2012. A stratified random sample of eight hundred registered pharmacy practitioners was collected all over Riyadh region. Statistical analysis was done using SPSS version19.0 for windows (SPSS Inc., Chicago, Illinois).

Results: The response rate was almost 82%. The majority of the respondents are young adults (90.2%). The median for years of registration of respondent pharmacists was 9 years (range 1–37 years). About 62% (407) of the respondents have a positive response while only 37.8% (n = 248) have a negative response in this respect. The major factors identified were pharmacist assistant (82.2%) and high workload (72.5%). The most appreciated factors that help reducing dispensing errors are improving doctors' hand writing and reducing work load of the pharmacist (82.9% and 82.8% respectively), having drug names that are distinctive (76.1%) and having more than one pharmacist in duty (75.5%).

Conclusion: In conclusion, majority of community pharmacists indicated that the risk of dispensing errors was increasing and most of them were aware of dispensing errors. It is obvious from the study results that dispensing errors is a big concern for community pharmacy practice in Saudi Arabia. Therefore, there is an urgent need for the professional organizations and Pharmacy Boards in Saudi Arabia to determine standards for the profession.

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1. Introduction

Community pharmacists today are involved in a wide variety of professional activities, which may be considered as patient care that optimizes medication therapy and promotes health,

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wellness, and disease prevention (American College of Clinical Pharmacy, 2008). This field of pharmacy practice focuses on patient-oriented rather than drug product-oriented service (Barker and Valentino, 1972) However Community pharmacists can act as a primary source of providing scientifically valid drug information and should be able to advise regarding the safe, appropriate, and cost–effective use of medications (American College of Clinical Pharmacy, 2008; Leape et al., 1999; Bero et al., 2000). The dispensing process in community pharmacy is major part of the quality use of medicines and together with patient counseling, forms the core professional activities of a pharmacist (Peterson et al., 1999).

Dispensing errors are defined as any inconsistencies or deviations from the prescription order such as dispensing the incorrect drug, dose, dosage form; wrong quantity; inappropriate, incorrect, or inadequate labeling, confusing, or inadequate directions for medication use; incorrect or inappropriate preparation, packaging, or storage or medication prior to dispensing (Szeinbach et al., 2007). The aim of the rational prescribing is reducing inappropriate prescribing process and improving patient's safety and care (Crigger and Holcomb, 2008). The concept of right drug, right dose, right route, right time and right patient ensures rational drug therapy (Khoja et al., 2011). Physician related factors, as well as social, environmental and economic factors govern the rationality of a prescription. Errors in prescription writing can occur irrespective of the age, gender, medication, dose, route of administration, or indication (Vance and Millington, 1986). Dispensing errors are believed to be the most prevalent type of medical error and are a significant cause of preventable adverse events (Dean et al., 2002; David et al., 2001; Perwitasari et al., 2010; Bobb et al., 2004).

Role of professionally competent community pharmacists with specialized training in dispensing is pivotal. They can intercept potentially harmful prescribing errors (Wang et al., 2007) and serve as an indispensible source of information for prescribing physicians and nursing staff regarding rational prescribing practices. The American Society of Health System Pharmacists (ASHP) believes that pharmacists have a role in meeting the primary (ambulatory) care needs of patients by providing pharmaceutical care, through their expanded responsibilities in collaborative drug therapy management (Scobie et al., 2003).

Some studies have investigated the community pharmacists' attitudes toward dispensing errors (Peterson et al., 1999; Szeinbach et al., 2007). However, previous studies from community pharmacy practice describe errors in workflow (Hoxsie et al., 2006), satisfaction (Larson, 1998; Bond and Raehl, 2001) and safety (Peterson et al., 1999; Plews-Ogan et al., 2004). However, more information is needed to describe how pharmacy design, and automated dispensing systems contribute to perceptions of error in prescription processing in the community setting. In USA Outpatient prescription medications dispensed were increased from 2.1 billion in 1994 to 3.6 billion in 2005 (Kistner et al., 1994).

In UK, dispensing error rates range from 0.04% to 0.08% for community pharmacy practice (Siew-Siang et al., 2003; Ashcroft et al., 2005). Previous studies also provide evidence that people talking in the background, interruptions and background noise, and pressures (Flynn et al., 1999; Allinson et al., 2005; Edwards and Gronlund, 1998) interfere with concentration and may decrease the ability to perform cognitive functions which result in concentration gaps and information sorting problems that increase the likelihood of errors in prescription processing. However, more information is needed to assess the contribution of internal design variables to dispensing errors and to determine how design variables and cognitive abilities are viewed when dispensing errors occur.

With the increasing focus on high quality outcome based service delivery in health care, it is timely for the pharmacy profession to critically self examine all processes to ensure that their services are of the highest quality from both consumers and professional standard prospective. This study is concerned with the dispensing process in community pharmacy, including factors that increase the likelihood of errors and measures that can be implemented to improve the process. Earlier studies on drug prescribing in Saudi Arabia showed patterns of overprescribing (Sebaie, 1985). On the other hand, all studies in Saudi Arabia addressed the problem of medication prescribing errors from the prospective of physicians (Khoja et al., 2011; Greenberg, 1996) and no studies explore the attitude and views of the community pharmacist toward the dispensing errors, so the main objective of this study was to survey pharmacists' attitudes toward dispensing errors in community pharmacy settings in Saudi Arabia.

2. Methodology

A cross-sectional survey of community pharmacists in Riyadh region, Saudi Arabia was conducted over a period of 6 months from March through September 2012. Data collection was carried out using a structured self-administered questionnaire. The validated questionnaire was adopted from previous study (Peterson et al., 1999). A draft of the questionnaire was piloted on a convenience of 20 practicing pharmacists to check for readability, understanding, question design and the length of the questionnaire. Based on the result of this pilot study the questionnaire was used with some modifications and the final questionnaire was handed over to participants in person or sent through mail or E-mail.

The questionnaire consisted of a series of questions including both closed and Likert type. The questionnaire included nine items about community pharmacists' attitudes toward dispensing errors in community pharmacy and demographic information of the pharmacist. The first four questions were about age, year of registration, and practice site. Fifth to seventh questions asked about the frequency of dispensing prescription by pharmacist, opinions on whether the dispensing errors are increasing and actual errors in dispensing are becoming more common respectively. The last two questions explored both the major factors associated with the occurrence of dispensing errors and factors important in minimizing dispensing errors, using a five–point Likert-type scale (1, very often; 2, often; 3, sometimes; 4, rarely; 5, never).

Notably, gender is not included in the demographics where female pharmacists are not allowed to work in community pharmacy in Saudi Arabia.

A stratified random sample of eight hundred registered pharmacy practitioners all over Riyadh region of Saudi Arabia was randomly chosen to respond to the survey. Community pharmacies in Riyadh region were randomly selected for visits according to their geographical distribution (i.e., north, south, east, and west). The selection of facilities was done at random