



ORIGINAL ARTICLE

# Hospital pharmacists' self-evaluation of their competence and confidence in conducting pharmacy practice research



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## KEYWORDS

Competence;  
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Research capacity

**Abstract** *Objectives:* Research is essential to the advancement of pharmacy practice and health-care. Pharmacists have a pivotal role to play in this strategy. However, there is a paucity of data about hospital pharmacists' competence and ability in conducting health-related research. This study primarily aims to determine the research demographics of hospital pharmacists in Qatar and to assess the pharmacists' perceptions of their competence and confidence to conduct research.

*Methods:* A multi-centered survey using a 70-item piloted questionnaire was conducted among a randomly selected sample of pharmacists practicing at seven Hamad Medical Corporation-managed hospitals. Both descriptive and inferential statistical analyses were applied using IBM-SPSS® version 20.

*Key findings:* A total of 120 participants responded to the survey (67% response rate). About 70% of the participants did not have any previous research experience. At least 20% of the respondents self-reported inadequate competence and/or confidence in developing research protocols, critically appraising the literature, undertaking and applying appropriate statistical techniques, and interpreting research findings. The level of education along with the current hospital of practice had significant effects on pharmacists' self-assessed competence ( $p < 0.05$ ). Overall, 85% of the participants were interested in pursuing postgraduate studies or research-related training.

*Conclusions:* A large proportion of hospital pharmacists in Qatar self-assessed themselves as having deficiencies in several domains of research process or competencies, although they recognized

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the value of research in advancing pharmacy practice. These findings have important implications for developing informal research training programs and promoting the pursuit of formal postgraduate programs to bridge the knowledge gaps found among hospital-practicing pharmacists.

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## 1. Introduction

Pharmacy practice, as an important component of healthcare, is rapidly evolving, and research is becoming essential to generate new knowledge for improving the therapeutic use of medicines and overall healthcare outcomes (Bond, 2006; Peterson et al., 2009; Kritikos et al., 2013). Research also serves as the bedrock for evidence-based pharmacy practice (Bond, 2006; Peterson et al., 2009). Therefore, having pharmacists who are competent in the delivery of pharmaceutical care and who possess the skills to conduct research is critical because their roles in direct patient care and research is rapidly advancing (Schwartz, 1986; Hepler and Strand, 1990; Holland and Nimmo, 1999; Schumock et al., 2003; Bond, 2006; Dowling et al., 2009; Smith et al., 2009; Poloyac et al., 2011). Likewise, pharmacy practice in Qatar and other Middle Eastern countries is rapidly evolving (Kheir et al., 2009; Kheir and Fahey, 2011; Zaidan et al., 2011). However, there is a lack of empirical evidence to demonstrate the parallel advancement of pharmacists in terms of capacity and involvement in health-related research activities. In spite of a societal need for pharmacist-researchers to advance pharmacy practice, establish new roles and services, and improve healthcare outcomes, some challenges exist that may hamper the attainment of these goals (Davies et al., 1993; Fagan et al., 2006; Saini et al., 2006; Armour et al., 2007; Peterson et al., 2009; Smith et al., 2009; Smith, 2010). These challenges include ensuring an adequately trained pharmacy workforce, obtaining research funds, and having protected time for research (Saini et al., 2006; Dowling et al., 2009; Peterson et al., 2009; Poloyac et al., 2011).

As part of the mission and goals of pharmacy education, academic degree programs should provide sufficient exposure and prepare pharmacy graduates to conduct practice-based research and scholarly activities. Historically, a minority of undergraduate pharmacy degree programs included formal research education and training as requirements for graduation (Nahata, 2002; American College of Clinical Pharmacy Research Affairs Committee, 2007; Knapp et al., 2011). Furthermore, studies have shown that the number of individuals in the pharmacy workforce with demonstrated capacity for independent research is too small, the number of programs to train such individuals is too few, and the research output from pharmacists is generally too little (Schwartz, 1986; Davies et al., 1993; Ellerby et al., 1993; Rosenbloom et al., 2000; Nahata, 2002; Saini et al., 2006; Armour et al., 2007). In contrast, pharmacy schools and colleges have developed numerous postgraduate programs over the years to provide alternative training opportunities to help meet the needs of pharmacy graduates.

Despite the increased awareness among pharmacists and other health care professionals about the preparations required to seek and succeed in a research career (Blouin et al., 2007; Dowling et al., 2009; Smith et al., 2009; Poloyac et al., 2011), few pharmacists, especially among those

practicing in a busy hospital environment, have the opportunity to join formal graduate programs that boost research capacity. Moreover, previous studies have documented that community pharmacists are ill-equipped in terms of pharmacy practice-related research skills and knowledge (Ellerby et al., 1993; Liddell, 1996; Rosenbloom et al., 2000; Saini et al., 2006; Armour et al., 2007; Peterson et al., 2009). However, data about the ability and competence of hospital-based pharmacists on practice-related research have not been widely documented. It is also hard to quantify the research productivity of hospital pharmacists in an environment where data are generally limited. Is the Qatar hospital pharmacy workforce adequately trained and prepared to face the current challenges of and quest for cutting-edge health-related research? In an effort to determine where the pharmacy workforce lies in this equation, a nationwide multi-centered study was conducted.

This study aims to (1) explore the research backgrounds and productivity of hospital-practicing pharmacists in Qatar, (2) determine their self-reported competence and confidence towards conducting pharmacy practice and health-related research, and (3) examine their preferences for training programs to build their research capacities and meet the future needs of the profession.

## 2. Methods

### 2.1. Study design

A cross-sectional descriptive study using a 70-item piloted questionnaire was conducted among hospital-practicing pharmacists in Qatar between February and May of 2012. Ethical approval was obtained from the Hamad Medical Corporation (HMC) Medical Research Committee and the Qatar University Institutional Review Board.

### 2.2. Study setting and participants

This was a multi-centered survey involving pharmacists practicing in seven hospitals under the auspices of HMC, the predominant public healthcare organization in Qatar. The hospitals were: Hamad General Hospital, National Center for Cancer Care and Research, the National Heart Hospital, the Women's Hospital, Al-Wakra Hospital, Al-Khor Hospital, and Al-Rumailah Hospital. Inclusion criteria for potential respondents included: (1) being a registered pharmacist in Qatar; (2) currently working as a hospital pharmacist; and (3) working in a public hospital for at least 12 months.

### 2.3. Sample identification and recruitment

The minimum sample size for the study was approximately 140, but we targeted 180 pharmacists to account for non-response. The technique of stratified random sampling

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