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Research Note

Assessing the evidence based medicine educational needs of community pharmacy preceptors within an experiential program in Qatar

Bridget Paravattil*, Noha El Sakrmy, Shahd Shaar

College of Pharmacy, Qatar University, Doha, Qatar

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ABSTRACT

Introduction: Observations have shown a lack of evidence-based medicine (EBM) knowledge and skills among community pharmacy preceptors in Qatar. These skills are important when delivering evidence-based recommendations to healthcare providers and patients. The aim of this study was to explore the community pharmacy preceptors' knowledge and understanding of EBM and to identify challenges in applying this approach to community practice.

Methods: A survey instrument was developed to assess the knowledge of community pharmacy preceptors related to EBM. Knowledge-based questions were mapped according to National Association of Pharmacy Regulatory Authorities professional competencies for practicing pharmacists. The survey tool was administered to community pharmacy preceptors involved in mentoring Qatar University College of Pharmacy students.

Results: Twenty-six community pharmacy preceptors completed the survey with a response rate of 65%. The knowledge-based questions linked to drug information resulted in 18%, 36%, and 46% of correct, incorrect, and unsure responses respectively while the critical appraisal questions showed 18%, 27%, 55% of correct, incorrect, and unsure responses respectively. Major barriers to practicing EBM included lack of EBM training (81%) and interpreting study results (80%). Conclusions: Community pharmacy preceptors showed poor knowledge and understanding of EBM. These results and expressed needs by pharmacists support the development of a supplementary course to improve EBM skills.

Introduction

Evidence-based medicine (EBM) is the practice of using the best available clinical evidence and integrating clinical experience when making patient care decisions. The evidence-based medicine approach requires healthcare professionals to be proficient in retrieving relevant information, interpreting clinical data, and applying study findings to an individual patient when making decisions. These EBM concepts translate into the fundamental skills of drug information and critical appraisal. For pharmacists, EBM is flourishing as the profession moves away from the traditional dispensing role towards patient centered care and medication therapy management. Medication information evaluation and management is a major competency for clinical pharmacy practice and require the possession of excellent oral and written communication skills to carry out these activities. Providing drug information is deemed a professional responsibility and require pharmacists to define the ultimate question, obtain complete background information, perform a systematic search for appropriate resources, critically analyze the resources, and make a comprehensive recommendation.

E-mail addresses: bridgetj@qu.edu.qa, bridgetp214@gmail.com (B. Paravattil), ne1104361@qu.edu.qa (N. El Sakrmy), ss1203156@student.qu.edu.qa (S. Shaar).

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^{*} Corresponding author.

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For this reason, pharmacists should be well versed in evidence based procedures.

Published data related to evidence based practices among community pharmacists have used self-assessment and satisfaction questionnaires to capture the level of understanding of EBM terms, rather than assessing the application of these skills through competency based questions.^{5–7} These results tend to be subjective and overestimate the learners' capabilities while concealing true knowledge gaps or educational needs. Moreover, an EBM assessment tool specific for pharmacists has not been developed. At present, EBM assessment tools available to measure competence are specific to the field of medicine.⁸

EBM has been integrated into many pharmacy schools because of its importance to patient care and for the development of competent pharmacy professionals.³ Pharmacy educators are responsible for ensuring the fundamental EBM skills of drug information and critical appraisal are fostered in all pharmacy students. These concepts should be taught and evaluated in the pharmacy curriculum and later reinforced and applied in the experiential setting.⁹ Likewise, journal clubs integrated into the experiential component of the curriculum is crucial to enhance the students' critical appraisal skills of medical literature. These activities provide students the opportunity to improve critical thinking skills, stay abreast to primary literature, and apply study findings to clinical practice. Incorporating journal clubs into advance pharmacy practice experiences not only augment the student's confidence, but are also effective in cultivating the student's understanding of research design, statistics, and applicability to patient care.¹⁰ As such, skills necessary to make well-informed patient care decisions require the utilization of the evidence based approach and need to be nurtured within an experiential environment to create competent practicing pharmacists.

Several studies have highlighted the benefits of incorporating various EBM teaching strategies to improve knowledge and skills among healthcare students in practice. ^{11–13} However, to date, there are no published studies focusing on community pharmacists' knowledge of EBM in an experiential setting.

Qatar University College of Pharmacy (QUCPh) offers two Canadian Accredited programs, the bachelor of science in pharmacy (BScPharm) and doctor of pharmacy (PharmD) degrees. It is the only pharmacy college in the country, and pharmacy graduates to date have entered hospital practice or pursued advanced studies. The BScPharm and PharmD study plans require 960 and 1280 hours, respectively, of practice experiences within diverse patient care settings prior to graduation. Practicing pharmacists involved in precepting students are approved by QUCPh. Preceptors are expected to attend an initial preceptor training session and complete preceptor development activities annually. During the initial preceptor session, it was observed that many community pharmacists were not familiar with conducting journal clubs. Feedback from pharmacy students after completion of their community pharmacy practice experience was in line with observations encountered during the preceptor training session.

Based on these observational findings, a need existed to explore the knowledge of community pharmacy preceptors regarding evidence-based practice in Qatar. Similarly, community pharmacy practice is not as advanced as hospital practice since community pharmacists have earned pharmacy degrees from countries outside of Qatar where the education is mainly concentrated on pharmaceutical sciences. ¹⁴ These programs differ significantly from United States and Canadian accredited pharmacy programs. ¹⁵ Additionally, community pharmacists in this region are perceived as dispensers rather than patient care providers. ¹⁶ Therefore, the need to bolster the caliber of community pharmacists becomes of greater importance to advance community practice and improve the experiential learning environment for pharmacy students.

The aim of this study was to explore community pharmacy preceptors' knowledge and understanding of evidence-based medicine and to identify challenges in applying this approach to community practice.

Methods

Study design

This was a cross sectional study to evaluate the community pharmacy preceptors' understanding of evidence-based medicine principles. Approval to conduct this study was granted by the Institutional Review Board at Qatar University (QU).

Study participants

The study population included community pharmacists involved in precepting QUCPh students. At the time of the study, there were 40 community pharmacists approved as pharmacy preceptors. Due to the small sample size, all community pharmacy preceptors were recruited for the study.

Survey instrument

The survey instrument designed to assess the community pharmacists' perceptions and knowledge of EBM was developed based on a literature review. It was comprised of sections related to preceptors' demographics, availability and utilization of references, frequency of interactions with patients and physicians, challenges to practicing EBM, and 11 multiple-choice questions and one short answer question to evaluate the preceptors' knowledge about drug information and critical appraisal skills.

The knowledge-based questions were developed and mapped according to the National Association of Pharmacy Regulatory Authorities (NAPRA) professional competencies for Canadian pharmacists at entry to practice. These competencies were adapted to pharmacy practice in Qatar. ¹⁷ The questions included topics such as patient, intervention, comparison, and outcome (PICO), search terms, study design and methodology, and concepts related to validity, study variables, and statistical tests. The level of difficulty varied among each knowledge based question to gauge the pharmacists' comprehension of the topic.

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