

Pharmacist and pharmacy student perceptions of a competency-based national licensing exam for entry to pharmacy practice in Qatar: A qualitative study

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Abstract

Introduction: The College of Pharmacy at Qatar University partnered with the Qatar Supreme Council of Health to pilot a competency-based final cumulative assessment as a model for subsequent national licensing exams. The objective of this study was to explore perceptions of pharmacy stakeholders on a national licensing exam.

Methods: A qualitative study was undertaken in Qatar using three focus groups; two with pharmacists (N = 3 and 8) and one with graduating pharmacy students (N=5). Focus groups were facilitated using a topic guide developed by study investigators. Discussions were audio-recorded and transcribed verbatim. Results were analysed using framework analysis.

Results: Four major themes were identified: i) Perception of current licensing process, ii) exam impact on stakeholder perception of pharmacists, iii) perceived implementation barriers, and iv) facilitators of successful implementation.

Conclusion: Participants identified the importance of a competency-based exam. Barriers were identified that must be addressed to facilitate successful implementation.

Keywords: Perception, Competency-Based Exam, Licensure

Introduction

Standardised examination as a requirement for licensure is utilised internationally to ensure entry-level clinicians have the necessary knowledge, skills and abilities to provide safe and effective patient care (The Pharmacy Examining Board of Canada, 2010; National Association of Boards of Pharmacy 2016). In Qatar, pharmacists must register with the Qatar Council of Healthcare Practitioners of the Supreme Council of Health (SCH). After registration, pharmacists are required to complete a Prometric exam consisting of multiple choice questions on general pharmacy information, pharmacology and pharmaceutics (Supreme Council of Health, 2015).

In 2007 Qatar's national post-secondary institution, Qatar University (QU), established a College of Pharmacy (CPH). Full accreditation from the Canadian Council for Accreditation of Pharmacy Programs (CCAPP) has been granted to CPH. This is the only college of pharmacy in Qatar, with classes of approximately 25 students per year. As of 2015, there were a total of 1,507 registered

pharmacists in Qatar (S. Aboulsoud, 10/05/15 personal communication, Supreme Council of Health). Consequently, the majority of pharmacists are expatriates representing diverse educational and experiential backgrounds with most degrees being obtained in Egypt, India, or Jordan (Kheir & Fahey, 2011). This diversity presents a unique challenge with regards to standardisation as pharmacists may be providing vastly different levels of care based on past experience and training. Currently, the majority of community pharmacists function primarily in dispensing roles while hospital practice models vary from distributive to specialised clinical services (Kheir *et al.*, 2008). Challenging community pharmacist's ability to expand services, the general public has demonstrated a poor understanding of the community pharmacist's role in managing their health related needs (El Hajj MS *et al.*, 2011). The SCH has recognised the need for improved standardisation and development of more advanced health care services under the umbrella of Qatar's National Health Strategy. Among other initiatives, this strategy

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outlines the need for increased uptake of pharmacy services and strengthening of the pharmacist's role in provision of patient care.

In alignment with this national vision, the SCH and QU CPH recently partnered to pilot a final cumulative assessment (FCA) in graduating pharmacy students and a sample of practising pharmacists in Qatar. As QU is accredited by CCAPP, the assessment was modelled after the Pharmacy Examining Board of Canada entry to practice examinations. The FCA involved three parts: 1) 100 multiple-choice questions focusing on domains such as patient care, evidence based practice, dispensing and pharmacy management; 2) a clinical pharmacy practice assessment requiring participants to review a patient case and formulate a care plan; and 3) An objective structured clinical examination (OSCE), involving eight stations where participants interacted with standardised patients to identify and resolve drug therapy problems. Rigorous case development, validation, and standard setting took place to ensure the exam reflected the knowledge, skills and abilities pharmacists should possess when exiting from the Bachelor of Science in Pharmacy program. It is anticipated that results from this pilot assessment will be used to inform development of a more comprehensive standardised national licensing exam for pharmacists.

As these new licensing requirements are developed it is important to understand the perceptions of competency-based assessments from the exam candidates. This information will serve to inform exam developers of facilitators and barriers to implementation and required resources to support future candidates. To our knowledge there are currently no published reports assessing the perception of pharmacists and students regarding standardised assessment at entry to practice or for continual competency assessment.

Objective

The objective of this pilot study was to explore pharmacist and pharmacy student perceptions for a national pharmacists' licensing exam in Qatar.

Ethics approval

This study was reviewed and received research ethics exemption by the Qatar University Institutional Review board (QU-IRB 319-E/14).

Methods

Study design and Participants

Given little is known or published about perceptions of implementing a national competency-based licensing exam, a qualitative study design using a series of focus groups was chosen to explore perceptions and gain insight around implementation. Three focus groups (N = 3, 5, and 8, respectively) were conducted.

All undergraduate pharmacy students in their final year and practising pharmacists partaking in the FCA were invited to participate in the study. In addition, a sample of convenience of pharmacists participating in Qatar University undergraduate and graduate experiential training were invited by email to participate. CPH faculty and instructors, members of the FCA steering committee and individuals who did not speak English were excluded.

Data Collection

Sessions were facilitated by research team members JR or DR, both Canadian pharmacists who received training in conducting focus groups from a senior team member experienced in qualitative research. A structured topic guide consisting of nine open and closed-ended questions was used to facilitate focus group discussions (Table I). Topic guide questions were developed by study investigators and derived from study objectives. Questions were initially drafted by the corresponding author (EB) then reviewed by all other investigators. Questions were modified, added, or removed based on feedback. Flexibility to elaborate on study questions based on the discussion direction was permitted. Signed consent was obtained from all participants prior to the start of each focus group. Participants were assured of anonymity and asked to keep comments discussed in the focus groups confidential.

Table I: Focus Group Topic Guide Questions

1. Tell us who you are, where you practice pharmacy, and one thing you enjoy doing outside of work.
2. Have you obtained a license to practice pharmacy in Qatar? If yes, tell us about the process you experienced when you first obtained your license to practice in Qatar (pharmacist participants only). Probe: Do you believe this exam reflected your knowledge and competency as a pharmacist?
3. What competencies should be assessed of pharmacists entering practice in Qatar?
4. Do you think pharmacists in Qatar should be required to complete a licensing exam at entry-to-practice? Why or why not?
5. Will a mandatory pharmacist licensing exam impact patient care in Qatar?
6. Do you think pharmacists should be required to complete re-assessment of competencies after initial licensure? Why or why not?
7. Do you have any hopes, concerns or fears regarding implementation of a national licensing or continuing competency exam in Qatar? Probe: Do you foresee any barriers to implementation?
8. If you were a decision maker for the Supreme Council of Health, what resources or support would you provide participants preparing for a licensing exam or re-assessment of competency in Qatar?
9. Is there anything else you would like to add that has not been discussed today?

Investigators conducted focus groups until no new ideas were reported, termed the saturation point (Mason, 2010). Although it is possible additional insights would have been generated from a larger sample size, investigators were satisfied sufficient discussion had been reached after completing three focus groups due to repetition of many comments. Sessions were conducted at QU and a local hospital in Doha, Qatar. The duration of focus groups and interviews ranged from 60 to 75 minutes. Focus groups were audio recorded with supplementary notes taken by an observing research team member (JR or DR). To protect anonymity, participants were identified by group number and assigned a letter in all notes and transcripts. Focus groups were conducted in May 2014, which was near the end of school term and a few weeks before the onset of Ramadan. Logistical issues posed by these events made post hoc member checking unfeasible.

Data Analysis

Data were analysed using the Framework method (Gale *et al.*, 2013). The Framework method consists of transcription, familiarisation with the interview, coding, development of an analytical framework, applying the analytical framework, charting data into the framework matrix and data interpretation. An inductive approach was used to identify themes in the data (Patton, 2001). During focus groups, facilitators moved through the interview guide questions while observing for emerging themes. Supplementary questions or prompts were used to elaborate upon themes. After completion of each focus group, research team members verbally discussed content and observed trends. Focus group facilitators completed verbatim transcriptions based on the audio-recorded discussions promptly after session completion. Once complete, all transcriptions were independently reviewed by research team members for identification of potential themes (DR, EB, JR). Research team members then met to discuss observations and develop themes and sub-themes to be used for coding data. Based on these themes, two study investigators (DR and JR) reviewed each transcript simultaneously, to increase reliability, and coded transcripts according to identified themes. NVivo 9™ software, was used to code data. When disagreement occurred regarding coding, consensus was achieved through face-to-face discussions amongst the research team. Quotes felt to be most representative of identified themes were selected for incorporation into the manuscript based on research team consensus.

Results

A total of 16 pharmacists and pharmacy students participated. Baseline characteristics of participants are outlined in Table II. Four major themes were identified; (i) perception of the current licensing process, (ii) impact of exam implementation on stakeholder perception of the pharmacist, (iii) perceived barriers to implementation and (iv) facilitators of successful implementation.

Table II: Baseline Characteristics

Characteristic	N	%
Pharmacist	11	68.8
Student	5	31.3
Gender		
Female	8	50.0
Age range		
18-25	5	31.2
26-35	5	31.2
36-45	4	25.0
46-55	1	6.3
Area of practice		
Student	5	31.2
Community	4	25.0
Hospital	5	31.2
Primary Care	1	6.3
Country in which participant obtained degree		
Qatar	6†	37.5
Egypt	3	18.8
Jordan	2	12.5
Philippines	2	12.5
Syria	1	6.3
Sudan	1	6.3
Highest level of education		
Current student	5	31.2
B.Sc. (Pharm)	7	43.8
M.Sc.	2	12.5
Pharm.D.	1	6.3

Majority of baseline characteristics not provided by 1 study participant.

† Includes 5 current pharmacy students

(i) Perception of the current licensing process

Although all participants agreed that assessment at entry-to-practice for pharmacists in Qatar should be mandatory, dissatisfaction with the current Prometric exam was reported:

“The experience I had with the Prometric [is] that it is just basic and elementary questions so that freshly graduated pharmacists can do it, however, it is just not clinically oriented.” [Group 2, Participant C].

Opinions were varied on what format an entry to practice assessment should take. Concern was also voiced regarding lack of mandatory reassessment to maintain licensure. Participants consistently noted that the current exam for entry to practice in Qatar does not reflect the required knowledge and skills of a front-line pharmacist:

“A person who studied pharmacy technology would be able to solve the exam.” [Group 1, Participant A].

A number of participants commented that the exam tested basic pharmaceutical sciences knowledge and did not assess clinical application:

“I don't think it assesses knowledge of a clinical pharmacist. For me I didn't think it assessed anything except mechanism of action, a couple of side effects... Critical thinking was not assessed...I think it is one of the competencies for each pharmacist that they should have to work on. Going beyond the figures, trying to analyse the cases, trying to identify drug related

problems, acting on those drug related problems... unfortunately the exam focuses mainly on straightforward questions [and] some theoretical knowledge." [Group 2, Participant B].

Finally, several participants expressed the need for standardisation given the heterogeneous nature of pharmacists in Qatar. Inappropriateness of the current "one size fits all" process where the majority of practicing pharmacists have trained and practiced outside Qatar was a recurring concern amongst participants.

(ii) Exam impact on stakeholder perception of pharmacists

Pharmacist self-perception

Many participants expressed that implementation of a national licensing exam would lead to a more cohesive professional identity. Some participants felt that an exam would increase professional status by elevating the minimum standard required to obtain a license to practice. Several community pharmacists communicated that passing a standardised exam would increase their confidence when providing patient care simply by knowing they were able to succeed at the same exam as hospital pharmacists and/or QU graduates, whom they regarded as having superior clinical abilities:

"[The exam] will show that pharmacy is competitive, not just anyone can be a pharmacist, we do have exams, we do have an assessment for our profession. It will ensure only the highly qualified people will be practicing." [Group 2, Participant B].

Public

Participants felt that implementation of a competency-based exam would elevate the status of the pharmacy profession in the public eye. Participants felt the exam could serve as a vehicle to increase public awareness and in turn respect and utilisation of pharmacists:

"I hope it would improve the quality of care provided to patients, improve the status of the pharmacist in the country, and by status I mean socially, professionally and also financially." [Group 1, Participant A]

Additionally, it was felt that a standardised exam would increase public trust in pharmacists by serving as assurance that every practitioner has met requirements for minimal competence:

"Wherever they go the pharmacists are dealing with them in a certain way, not just dispensing but providing them with counselling...the patient's perspective of the pharmacist will start to change and then probably that will impact on the long term patient care." [Group 1, Participant A]

While many participants felt exam implementation would positively impact perception, some participants indicated that the negative perception by the general population needed to be addressed, otherwise implementation of the exam would be purposeless:

"I work as a community pharmacist. And the situation is too bad. You cannot expect that somebody's coming to do the OSCE like what's going on Canada and then come to be hired in a community pharmacy. There is a low salary and difficult conditions to work. So I hope that this will help pharmacists...and it will impact back on the patients and the whole system." [Group 3, Participant E]

Other comments included pharmacists being treated with the same respect as physicians and increased patient satisfaction with pharmacist interactions.

Health care provider

Several group members commented that by ensuring competency and promoting evidence based practices, an exam may improve physician perception of and confidence in pharmacists. Participants were hopeful that an exam would lead to increased collaboration with physicians if overall quality of care improves secondary to standardised licensure.

(iii) Perceived implementation barriers

Fear

Fear was a major sub-theme that emerged as a barrier to implementation. Several pharmacists articulated a lack of confidence in their abilities as an impediment to completing a competency-based exam:

"I've been here almost twenty years now... [and] suddenly this exam...it was a little shock for me because you know you have your family and working... you don't have time even to read." [Group 3, Participant B]

"I think those who are already working would be too scared to do the exam." [Group 1, Participant E].

Concern was also expressed from participants that exam implementation will make employment difficult for those trained outside of Qatar with fears they would be viewed as inferior pharmacists:

"For those who have been practicing for a while, what would happen to them is a bit challenging...and in case they fail the exam, it is quite embarrassing for them in front of other colleagues... are they qualified enough to continue to work [in] their previous positions...or shall we move them to other areas?" [Group 2, Participant B]

Participants worried that with such a varied population of pharmacists in the country, it would be impossible to achieve a consistent standard of minimal competence without compromising current work force:

"If I'm an owner of a business or a pharmacy or a chain pharmacy, I wouldn't be very happy with the fact that my pharmacists, the ones that I brought from overseas, would be tested and in case this didn't work I have to send them back...Where am I supposed to get pharmacists knowing that the CPH only graduates around twenty per year? I think we would have a shortage of pharmacists in the country." [Group 1, Participant E]

Although there was agreement that certain competencies are fundamental to all pharmacists regardless of practice site, the hospital pharmacists expressed they utilised a different knowledge base and skill set than community pharmacists and that applying the same assessment to both groups would not be equitable. Finally, a small number of participant's worried physicians may view the exam as a means to expand the role of the pharmacist and would oppose the exam out of fear of encroachment on their practice.

Preparation

Practicing pharmacists tended to cite lack of study time as a major barrier to successful exam completion. Pharmacy students tended to be more confident in their ability to complete the exam, expressing their education has prepared them for this type of assessment. Some participants suggested that practicing pharmacists may not be motivated to put in required effort for exam success. All focus groups commented on availability of resources required to prepare for a national licensing exam with many community pharmacists citing lack of access to online databases as an issue: *"You are working or don't have a lot of time to read or to refresh yourself but the oral exam would reflect your experience."* [Group 3, Participant F]

"And they [referring to practicing pharmacists] will be like, 'oh I have to keep on studying.'" [Group 1, Participant C]

(iv) Facilitation of successful implementation

Many of participants noted that detailed exam outlines and practice cases would be useful in exam preparation. Participants suggested that a comprehensive training program, which may include structured practice sessions and mock OSCEs, over the course of a year may be required:

"I think the decision makers or the group that's going to write the exam, they should develop some good online resources to send for participants because most of pharmacists are busy and they don't have time to attend workshops so they can rely on online resources." [Group 1, Participant D]

"[Examiners should] provide you with time, structure, even marks, what you do in [this] case, what you do in that case, pitfalls you should avoid, advice as before, study plans." [Group 2, Participant C]

"So I think applying the exams immediately would be to most of the pharmacists here. So without a comprehensive and I'm talking about a whole year of comprehensive training maybe then applying the exam otherwise it won't be fair and it's not going to be reflective." [Group 1, Participant A]

Participants suggested successful exam candidates should be recognised via a certificate or new professional designation:

"If I'm taking the exam and passing something, a really strong assessment, I would like to be differentiated from others who are in the practice. So how about maybe adding some kind of certificate?" [Group 1, Participant E]

A few participants felt salary increases for those completing the exam would be warranted. A number of participants recognised significant time requirements required for exam preparation and suggested employers should provide paid leave and reimbursement of exam fees to facilitate this process:

"[It is the] obligation of the sponsors, the pharmacy owners, to allow their pharmacists using their, improving their skills, to provide educational programs online courses, exams and so on." [Group 3, Participant E]

The majority of participants acknowledged that significant public education about the role of the pharmacist should occur prior to exam implementation as most are currently unaware of the role pharmacists can play in providing direct patient care:

"I would say that patients also have to know that pharmacists have a new role like they're used to just a pharmacist as only a dispensing person, so they have to know that there is a change in role, there is a new implementation, a new role of the pharmacist. So I think it's not only like about the pharmacist, it's also about the patient so, training of pharmacists and also I don't know, like maybe have more advertisement about roles of pharmacists or something like that." [Group 1, Participant B]

Discussion

This is the first study to evaluate perceptions of a national competency-based exam at entry to practice in Qatar. Pharmacy practice environments and pharmacist backgrounds are widely heterogeneous in Qatar. Given this, motivations to develop a more rigorous competency-based national licensing exam include public protection, improvement in health outcomes and protection and advancement of the professional identity of pharmacists. Such diversity in pharmacists also creates unique barriers to implementation of a national exam.

All participants agreed a formal assessment should be completed prior to issuing pharmacist licenses in Qatar and most participants felt the current exam does not adequately assess relevant competencies. Studies of pharmacy, nursing and medical student perceptions of an OSCE prior to degree exit demonstrate the majority of students feel this method of examination is applicable and equitable (Awaisu *et al.*, 2007; Awaisu *et al.*, 2010; Mohamed Ibrahim, 2012; Mårtensson & Löfmark, 2013; Nasir *et al.*, 2014;).

While participants understood the value of a competency-based exam, fear was emphasised as a barrier to exam implementation. In addition to fear of exam failure, participants felt employers would face recruitment

difficulties should a national exam become mandatory due to increased complexity of hiring foreign trained pharmacists. Participants noted that implementation of a standardised exam may lead physicians to perceive pharmacists as impinging on their professional territory. The literature on health care provider acceptance of pharmacists in the Middle East has shown mixed results (McGrath *et al.*, 2010; El Hajj *et al.*, 2011; Wilbur *et al.*, 2012; Sabry & Farid, 2014). This suggests that the perceptions of how pharmacists are viewed by professional colleagues observed in our focus groups accurately reflect the climate of pharmacy practice in the Middle East. A standardised, competency based exam may be a building block in overcoming current perceptions. Importantly, just as pharmacists in Qatar originate from diverse backgrounds, other health care providers are widely varied and past training and experiences would impact their perception of pharmacists' roles.

Several strategies for successful exam implementation should be considered. Mitigation of fears and minimisation of impact on the current pharmacist workforce could be accomplished by step-wise exam implementation. Initially the exam should only be mandatory for new graduates or those wishing to obtain first-time licensure in Qatar with subsequent implementation focusing on practicing pharmacists once educational support is in place. The provision of bridging programmes and informational modules would allow candidates to familiarise themselves with exam format and content while strengthening their clinical skills to alleviating exam anxiety. As fear often drives misconceptions, it would be prudent to thoroughly disseminate information regarding the purpose, content and desired outcomes of the exam to candidates well in advance. This would serve to minimise resistance by bolstering pharmacists' acceptance of standardisation. Public service announcements and dissemination of verbal and written information at community pharmacies may help improve public perceptions. Dissolution of antiquated laws restricting pharmacist practice would further motivate pharmacists to become standardised and practice to their fullest scope.

Strengths of this study include representation from a diverse group of pharmacy students and pharmacists and the fact that published research on this topic is scarce. In Qatar, where health care services are rapidly expanding and graduates are being trained to provide high-level care to patients, standardisation is inevitable. Results of this study provide strategies and future considerations for successful development and implementation of a competency-based licensing exam. The views expressed in the study underscore a desire of pharmacists in Qatar to advance the profession and improve their overall standing. The results may serve as a resource for other health care disciplines considering implementation of a competency-based exam in the Middle East.

This study has several limitations. Although the sample was diverse, the findings represent only a small sample of

practicing pharmacists and students in Qatar. Results cannot be presumed to represent the perceptions of all pharmacists and students in Qatar and cannot be extrapolated to a population outside of the country. Additionally, all interviews were conducted in English, which was a second language for participants. Although we believe language was not a barrier to understanding content, facilitators repeated or rephrased questions as required to ensure clarity. Facilitators were Canadian pharmacists, which may have influenced responses. However, facilitators remained neutral and refrained from sharing their own perceptions. Participants were recruited on a volunteer basis creating a risk of sampling bias as those with a vested interest in promoting or discouraging the licensing exam may have been more likely to partake. Due to logistical constraints we were unable to conduct member checking to confirm participant intents were reflected in their words. Member checking was considered less relevant as the primary intent of focus groups was quality improvement.

The QU College of Pharmacy continues to require students to complete the FCA prior to graduating as part of the undergraduate curriculum. Opportunities to incorporate a similar exam for assessment of continuing competency continues to be explored for practicing pharmacists in Qatar.

Conclusion

Participants felt the current licensing process does not adequately reflect the required knowledge and skills of practicing pharmacists. Need for a national, standardised licensing exam assessing competencies at entry to pharmacy practice was acknowledged by most participants. Participants felt exam implementation has the potential to improve self-perception and enhance public and health care provider perceptions of pharmacists in Qatar. Perceived barriers to implementation included fear of failure, a lack of acceptance from pharmacy employers, state of the current pharmacy practice environment in Qatar and lack of support from other health care professionals. Successful standardisation will require a multi-modal approach encompassing communication, incentives and availability of resources.

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