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## Original Research

# An initial exploration of the perceptions of preparedness to practise among Saudi Arabian trained hospital pharmacists

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### Abstract

**Background:** There is a dearth of literature on perceptions of preparedness to practise, which explores the extent to which educational institutions prepare their students to fulfil their professional role.

**Objective:** The aim of this study was to explore perceptions of preparedness to practise among Saudi Arabian pharmacy graduates working in hospital.

**Method:** Face-to-face, semi-structured interviews were conducted with ten hospital pharmacists based in four hospitals in the Eastern Province of Saudi Arabia who had qualified within the last five years from a Saudi Arabian School of Pharmacy. Interviews focused on expectations of hospital practise, perceptions of preparedness and challenges encountered, and reflections on how to better prepare students. Interviews were audio-recorded, transcribed and analysed thematically by two independent researchers using the Framework Approach.

**Results:** Five key themes were identified: expectations versus reality of practise; issues relating to university course; practice related training; adapting to the work environment; and proposed improvements to undergraduate education. Participants were generally disappointed to find practise was not as expected. University training was largely didactic, with skills such as critical thinking not being sufficiently developed. Where practice related training was provided, it was variable in length and content. Cultural issues, most notably working in a mixed sex environment, were also considered to impact preparedness. Suggested improvements included greater focus on skills development and structured training placements.

**Conclusions:** Participants experiences in university, and experiential placements varied greatly and were perceived to impact greatly on preparedness to practise. Further multiple perspective exploration of perceptions of preparedness to practise is warranted.

### Keywords

Professional Practice; Pharmaceutical Services; Pharmacy Service, Hospital; Pharmacists; Education, Pharmacy; Qualitative Research; Saudi Arabia

## INTRODUCTION

The concept of 'preparedness to practise' considers the extent to which educational institutions prepare students for professional roles, encompassing aspects of attitudes, knowledge and skills. Researching preparedness to practise facilitates reviewing curricula to identify and address any areas of deficiency.<sup>1</sup> Moriarty *et al.*, in a scoping review of the transition from student to newly qualified professional across social work, teaching, nursing and allied health professions, reported the lack of consensus on how to measure preparedness to practise. They also noted that the primary literature generally researched mentors' perceptions of performance, with little emphasis on preparedness.<sup>2</sup>

Ried *et al.* developed the Perception of Preparedness to Perform (PREP) tool to determine students' views and experiences of being sufficiently equipped to carry out advanced pharmacy practice competencies at different stages of their academic training.<sup>1</sup> PREP comprises 41 Likert scale statements derived from the Centre for the Advancement of Pharmaceutical Education guidelines (CAPE) and has been adapted and used in studies in the United States (US), Malaysia and Kuwait. Scott *et al.* reported a longitudinal study conducted in the US, with findings that students' perceptions of preparedness were increasingly positive as they progressed through the course.<sup>3</sup> In Malaysia, Hasan *et al.* compared PREP scores prior to and following experiential placements, with significantly higher PREP scores obtained post placement.<sup>4</sup> Katoue *et al.* used an adjusted PREP tool with pharmacy students in Kuwait who had not experienced any work place learning.<sup>5</sup>

In the United Kingdom (UK), Willis *et al.* conducted a study of preparedness in final year students of 14 Schools of Pharmacy. The data collection tool was based upon the then Royal Pharmaceutical Society of Great Britain (RPSGB) Master of Pharmacy learning outcomes. Study findings highlighted that students deemed themselves more prepared for broad areas than for specific competencies.<sup>6</sup>

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Fewer studies have reported pharmacists' perspectives of preparedness to practise, which may be very different to those of pharmacy students. Kairuz *et al.* in New Zealand conducted a cross-sectional study of the perceptions of preceptors, interns and newly registered pharmacists using a bespoke 16-item questionnaire. There were marked differences in that preceptor perceptions of graduates' preparedness were less positive than graduates' self-perceptions.<sup>7</sup> Noble *et al.* conducted face to face qualitative interviews with Australian graduates on the transition from pharmacy student to intern, and professional identity. Although preparedness was not the main focus of the study, themes identified included the impact of curricular experience, as well as difficulties of adjusting to the work environment.<sup>8</sup> In a qualitative study in Australia, Stupans explored areas that needed to be addressed to prepare graduates for the transition to full-time work in pharmacy, identifying deficiencies in placement periods.<sup>9</sup>

To date, no published studies have researched preparedness to practise of pharmacists in the Middle East. Given educational and cultural differences, the tools used and findings of studies from other geographical areas cannot necessarily be generalised or transferred to other contexts and settings. To qualify as a pharmacist in Saudi Arabia, the Saudi Commission for Health Specialties (SCHFS) requires completion of a Bachelor degree of no less than four years' duration.<sup>10</sup> An increasing number of universities offer the undergraduate Doctor of Pharmacy (PharmD) based on the standards set by the Accreditation Council for Pharmacy Education.<sup>11</sup> The undergraduate PharmD is six years, including one year of practice based hospital training. PharmD graduates are recognised as clinical pharmacists upon completion of a residency program in an accredited institution.<sup>10</sup>

The aim of this study was to explore perceptions of preparedness to practise among Saudi Arabian pharmacy graduates working in hospitals.

## METHODS

### Design

Face to face semi-structured interviews.

The study was conducted with pharmacists based in four hospitals in the Eastern Province of Saudi Arabia. Most Saudi Arabian pharmacy graduates practise in hospital hence this setting was prioritised for study.

### Interview schedule development

A semi-structured interview schedule was developed, and reviewed for credibility by an experienced pharmacy practice researcher. The schedule, underpinned by a content analysis orientation, comprised three areas: expectations of hospital pharmacy practice; perceptions of preparedness and any challenges encountered; and reflections on how to better prepare students. The following demographic data were also collected: gender, years since qualified as a pharmacist, undergraduate degree, and any exposure to the practice environment as an undergraduate. The schedule was piloted with two pharmacists in Saudi Arabia; post-pilot, the schedule was

translated into Arabic to allow the interviewees the option of participating in English or Arabic.

### Recruitment

Hospital pharmacists who had qualified from a Saudi Arabian School of Pharmacy within the last five years were included, with no exclusions. It was considered that recall bias may have been a greater issue in those qualified more than five years previously.

Initial recruitment was undertaken by pharmacy department supervisors in two hospitals who approached all those meeting the inclusion criteria. Those interested were requested to contact the researcher to discuss the study further, following which those still interested were emailed the participant information leaflet and a form to indicate preferred date, time and location of interview. In an attempt to increase participation, snowball sampling<sup>12</sup> was also employed with those interviewed requested to pass study information and researcher contact details to any suitable colleagues or acquaintances. Snowball sampling resulted in recruiting pharmacists from two further hospitals.

### Data generation

Interviews were conducted in a setting of the participant's choice, which was either an office close to the workplace or an easily accessible quiet area where the discussion could not be overheard. Prior to the interviews commencing, the researcher obtained signed, informed consent, with each participant allocated a unique identification code to facilitate anonymisation. Interviews of between 30 and 55 minutes were audio-recorded and transcribed by the researcher. The interviewer was female (LA) and at the time of research an MSc research student. She has previously worked at two of the recruitment hospitals, but had not worked with any of the research participants. Where necessary, any dialogue in Arabic was translated by the researcher (who was fluent in Arabic and a native English speaker) for transcription. Interviews were carried out between January and March 2016.

### Data Analysis

The five-step Framework Approach to thematic analysis was adopted: data familiarisation; identification of the thematic framework; indexing; charting; and mapping and interpretation.<sup>13</sup> Transcripts were coded independently by two researchers (LA and DS). Themes were derived from data, and no new themes were identified following the ninth interview.

### Ethical Approval

Ethical approval was obtained from the ethics review panel of the School of Pharmacy and Life Sciences, Robert Gordon University, United Kingdom. No further approval within Saudi Arabia was required.

## RESULTS

Twelve pharmacists expressed interest, ten of whom agreed to participate, and two felt that time constraints made it difficult to participate. Most (6) were female and educated to Bachelor level (6). The median time since

ID code	Gender	Time qualified	Undergraduate course	University*	Place of work **
B001	F	3 years	Bachelor	A	A
A002	F	2 years	Bachelor	B	A
M003	F	5 years	Bachelor	B	A
H004	F	2 years	Bachelor	C	A
Z005	F	1 year	PharmD	D	B
A006	M	1 year	PharmD	E	B
A007	M	4 years	Bachelor	B	B
T008	F	4 months	PharmD	E	A
L009	F	3 months	PharmD	E	C
W010	F	4 months	Bachelor	B	D

\* University, and \*\*place of work have not been identified to protect participant anonymity

qualification was 1.5 years, and participants represented all four hospitals and five universities (Table 1).

Analysis identified five key themes, each with several subthemes as given in Table 2.

### Expectations versus reality of practice

How role compared to expectations

Some participants expected their role to be accuracy checking, while others, particularly those educated to PharmD level, expected a more clinical role,

“I expected it to be as it is, nothing exceptional, I dispense the medication written by the doctor. I knew that as a pharmacist, this society will not really accept that I get involved in decision making, in doses, or other things...” A002- Bachelors

“To be honest, I expected the PharmD would enable me to work as a proper clinical pharmacist, go on rounds with the doctor, with a team but when I qualified, no, of course they treated me as a regular pharmacist” Z005- PharmD

Disappointment in their role

Disappointment was the overwhelming subtheme which emerged, with all participants discussing at length their feelings of disappointment. There were several causes of frustration, with many citing their feelings of wasted study time and knowledge,

“Thinking about the five years you studied, and the number of modules, and the crying and tears with each exam, it makes it hard” B001- Bachelors

“Your study is mostly clinical, so that sometimes becomes difficult, when you do basic pharmacy jobs” L009- PharmD

Others also noted the lack of autonomy in their roles,

“I thought I would be more responsible for the patients, for my decisions, to have more autonomy, nothing would be forced on us” B001- Bachelors

There were also expressions of feeling undervalued as professionals,

“We don’t really work as pharmacists” H004- Bachelors

### Issues relating to university course

When asked about how well university prepared participants, the spectrum of answers highlighted differences in university curricular and teaching methods. Those with a more theoretical based curriculum were more negative about their university experiences.

Method of teaching

Many complained that they had been taught didactically and had not developed critical thinking skills,

“Cases- reading, purely reading, there was nothing practical” B001- Bachelors

“In university, everything was dictated, dictated, dictated. We didn’t learn how to discuss, we went to a lecture, there was no opportunity to discuss” H004- Bachelors

Relevance of course content to practise

The relevance of the course content was also questioned by some, noting that lecturers lacking hospital experience were sometimes teaching outside of their fields of expertise,

“The problem is that the person who taught us had never worked in a hospital. She graduated, then immediately worked in the university, so she never had any actual experience of what happens in a

Theme	Sub themes
1. Expectations versus reality of practise	1.1 How role compared to expectations 1.2 Disappointment in their role
2. Issues relating to university course	2.1 Method of teaching 2.2 Relevance of course content to practise
3. Practice related training	3.1 Duration/ timing of training 3.2 Tasks undertaken to aid learning
4. Adapting to the work environment	4.1 Lack of knowledge 4.2 Lack of specific skills
5. Proposed improvements to undergraduate education	5.1 University curriculum 5.2 Experiential placement structure 5.3 Transition to the workplace

hospital" A002- Bachelors

### Practice related training

Duration/ timing of training

It was apparent that there was considerable variation in the duration and structure of any practice related training. This ranged from two months to one year, with some undertaking training during the summer of the undergraduate degree, and others after graduation,

"So two months in the first summer... then two months second summer, so total four months" A002- Bachelors

"four to six months training [after university]" B001- Bachelors

Tasks undertaken to aid learning

Tasks undertaken as part of this training ranged from purely observation of what the pharmacists and technicians did, to more systematic and structured approach to individual patient care comprising developing patient profiles and delivering presentations, as described by those who had completed the PharmD,

"I didn't know how to check, or even how to read anything. I didn't have any practise, only when I started work, did I see a prescription" B001- Bachelors

"The trainees were ignored, there was no programme, and each hospital teaches its own thing" A002- Bachelors

"I had to do two presentations during my training...I have to pass both presentations, and at the end of the month there was a test. Some preceptors assess us as a written exam, others test us verbally, and then we had cases." T008- PharmD

### Adapting to the work environment

On exploring challenges faced on transitioning from undergraduate study to the work place, lack of knowledge and lack of skills emerged as the two main themes.

Lack of knowledge

Some felt that they lacked even very basic knowledge, such as a systematic approach to checking prescriptions, which was recognised as a weakness by Bachelors graduates,

"... I didn't know before how to check a prescription" B001- Bachelors

Lack of specific skills

Interpersonal skills, notably the ability to interact with the opposite sex, was raised as a challenge upon qualification, due to the segregated education throughout school and university,

"...you are working with a female. I mean, from when I was young, until I graduated from university, I haven't done that, so that was hard" A007- Bachelors

Communication with healthcare professionals and patients was also identified as a problem area,

"I don't know how to do counselling, because I am new, it was so hard" W010- Bachelors

### Proposed improvements to undergraduate education

Three key themes emerged in relation to improving undergraduate education, namely the university curriculum, placements and the transition to the workplace.

University syllabus

Recommendations for course content and the method of teaching were made by Bachelors graduates, with overwhelming support for less didactic teaching,

"To change the dictation method of stuffing us with lots of information. Information should be brief and beneficial so it can be understood and then we know [why]. Discussion should be taught, so that when he/she graduate they know how to discuss, and build their personality" H004- Bachelors

The need to develop communication and negotiation skills was recommended by one participant who had undertaken the PharmD,

"In university, they concentrate a lot on patient counselling, patient education but they didn't at all mention physician counselling...how do you convince a doctor? I think it is actually much harder than patient counselling, to counsel someone who is experienced, and educated- a physician or consultant." T008- PharmD

One participant noted the need to standardise the level of education at PharmD so that all could benefit from greater clinical exposure and experiential training,

"they make us all PharmD, so we can all benefit from the one year of training, it doesn't make sense that we are separated, but in the end we are all going to work in the same places" W010- Bachelors

Experiential placement

Increased clinical exposure through enhanced experiential placements was a key recommendation, particularly for those who completed the Bachelor programme,

"The universities need to increase the therapeutics [through experiential placements], that is the first thing that needs to be done" W010- Bachelors

Transition to the workplace

Several made suggestions on how to ease the transition from undergraduate training to the workplace. One voiced the need to have mixed gender classes at university, as this was a major issue on entering the working environment,

"In the university, workshops, lectures they could have been mixed. That would overcome this social taboo, or the shock of me working with a female, or a female working with a male" A007- Bachelors

Participants felt that a structured induction program and continuing professional development opportunities would help ease the transition,

“It would be better if, there is a set way of training, and what they expect from us. Not just, come here, check the prescription” H004- Bachelors

## DISCUSSION

This qualitative study of preparedness to practise in Saudi Arabia highlighted issues described in five key themes. Participants expressed disappointment in that their expectations were not met. They voiced that university training was largely didactic and did not develop their critical thinking. Where practice related training was provided, it was highly variable in both timing and content. There were specific, deficient areas of knowledge and skills which were considered to impact their transition from university to the work place.

Given the lack of published literature on preparedness to practise generally and specifically within the Middle East, the findings of this study are original and extend the knowledge base. Furthermore, there is a lack of qualitative studies on preparedness to practise, especially for pharmacists. There are, however, several key limitations hence the findings should be interpreted with caution. Recruitment was particularly challenging (especially male participants) and only ten participants could be recruited which may have reduced the likelihood of achieving saturation of themes. Findings may not be transferable within Saudi Arabia or the Middle East more generally.

The International Pharmaceutical Federation (FIP) is a global federation representing pharmacists and pharmaceutical scientists.<sup>14</sup> In terms of education, FIP aims to ‘stimulate transformational change in pharmaceutical education and engender the development of science and practice, towards meeting present and future societal and workforce needs around the world’.<sup>15</sup> In particular, FIP is ‘building, advocating for, and disseminating evidence-based guidance, consensus-based standards, tools and resources for educational development for both organisations and practitioners’. Ensuring that graduates are fully prepared for the work environment is a fundamental responsibility of all involved in education and practice. While guidance, standards, tools and resources exist in certain parts of the world, particularly those with advanced clinical pharmacy practice<sup>16</sup>, there is a need to harmonise then share these which would inform those countries where clinical practise is in its infancy. The findings of this study are therefore of great interest as areas such as the Middle East start to embrace clinical pharmacy and qualifications such as the Doctor of Pharmacy become more commonplace.<sup>17,18</sup>

While the findings of qualitative studies cannot be generalised, there may be areas which require greater focus within Saudi Arabia. Participants in this research expressed concern over approaches to teaching, which were often didactic and considered to have less relevance to practice. There were criticisms over some teaching staff that had little or no practice related experience. Where placement opportunities were provided, there were issues over the type of activities undertaken. These findings were

not restricted to only those completing Bachelor level training. In a cross-sectional survey of 246 PharmD students attending one college of pharmacy in Saudi Arabia, Khan et al. reported that only half of the respondents perceived Saudi pharmacists well-trained. A similar proportion claimed that pharmacists’ work was not well-respected by other health professionals.<sup>11</sup> Furthermore, the lack of clinical exposure at university was perceived to have impacted their interprofessional development. In a recent qualitative study of the views and opinions of pharmacy education stakeholders regarding the current issues challenging pharmacy education, Al Jadhey *et al.* reported agreement that pharmacy education was in need of improvement. Participants called for clear, measurable, national educational outcomes for pharmacy programmes and new teaching methodologies and accreditation of experiential sites.<sup>19</sup>

Further curriculum development and clinically focused placement opportunities experiencing working within the multidisciplinary team are therefore warranted. Such developments have demonstrated positive impacts in other parts of the world.<sup>4,20</sup> In addition, there have been advances globally in terms of interprofessional education and also teaching approaches such as problem based (PBL) and team based learning (TBL). These approaches were found to better prepare professionals to deal with clinical situations through development of critical thinking skills, and independent learning, as well as raising confidence.<sup>8,21</sup> The benefits of joint appointments between the university and the workplace are well-established.<sup>4,8,22,23</sup>

Disappointment and frustration in the non-clinical focus of the pharmacist role emerged throughout this study, particularly from the PharmD graduates who found reality far removed from practise. Findings such as these are not new and have been reported by authors in many different parts of the world and over many years.<sup>8,24-26</sup> While there is a requirement for universities to train students for future developments, it is important that these are not viewed as being so far removed from practise otherwise feelings of disillusionment are likely. It is therefore important to link and engage academics, practitioners and practice leaders in pharmacy curriculum redesign.

One issue which may be particular to Saudi Arabia is that of the mixed sex environment heightening challenges in adapting to the workplace. These issues are well-recognised and have been reported by others<sup>27,28</sup>, and while are not easily resolved, can be eased by appropriate placement experiences.

There may be merit in conducting cross-sectional research to confirm the generalisability of these qualitative findings, adapting tools developed and used by others.<sup>1,3-5</sup> However, there may be more need to implement recommendations made by participants in this study. Interventions should be co-designed by academics, practitioners, practice leaders and students and evaluated using qualitative approaches.

## CONCLUSIONS

The undergraduate experiences of participating Saudi Arabian trained hospital pharmacists were diverse. The combination of traditional didactic methods of teaching,

with unaccredited training placements experienced by some led to negative perceptions of preparedness. Tutorial based training and structured training placements produced more positive perceptions of preparedness. Recommendations to better prepare future students included a curricular review, more practice based learning, and structured training placements.

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## CONFLICT OF INTEREST

The authors declare that they have no conflict of interest to disclose.

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