

## LETTER TO THE EDITOR

### A Call to Action to Transform Pharmacy Education and Practice in the Arab World

Submitted January 2, 2019; accepted May 14, 2019; published August 2019.

Al-Ghananeem and colleagues recently evaluated health care and pharmacy education in some countries of the Arab world focusing on clinical pharmacy education and practice. They identified six key strategies to meet the patient care and educational needs of these countries: implementing competency-based pharmacy education, improving learning outcomes and teaching methods, strengthening experiential and interprofessional education, requiring continuous professional development as part of licensure renewal, developing regional accreditation standards, and creating more appealing job opportunities for new graduates.<sup>1</sup> We believe this commentary fills a gap in the literature related to pharmacy education and practice in the Arab world, and as the authors suggested, the recommendations provided “can apply to other regions of the world as well.”

The commentary depicted, perhaps unintentionally and out of a desire for the Arab world’s betterment, a gloomy picture of clinical pharmacy education and practice in the Arab world. There is no doubt that there is plenty of room for improvement in many aspects of pharmacy education and practice in the Arab world, particularly in community pharmacy practice and in countries with limited resources.<sup>1</sup> However, many institutions have taken big steps to improve pharmacy education and training in this region of the world, and some have successfully secured external validation of their efforts.<sup>2-4</sup> Likewise, many pharmacists have taken similar steps to improve their practice, and some have successfully secured international credentials.

In terms of schools and colleges of pharmacy, the Arab world is home to several programs with accreditation or certification status by the Accreditation Council for Pharmacy Education (ACPE) and the Canadian Council for Accreditation of Pharmacy Programs (CCAPP).<sup>2-4</sup> As stated by Al-Ghananeem and colleagues, the pharmacy program at the Lebanese American University remains the only ACPE-accredited Doctor of Pharmacy (PharmD) program outside the United States.<sup>2</sup> The history of pharmacy education in Lebanon dates back to 1871, when the American evangelical missionaries estab-

lished the first Faculty of Pharmacy at what is now the American University of Beirut. And in 1889, the French Jesuit missionaries established the second Faculté de Pharmacie at Université Saint-Joseph. The pharmacy program at the American University of Beirut was discontinued during the Lebanese Civil War; however, several other programs have been established and some are offering the PharmD degree.<sup>5</sup> Other countries such as Saudi Arabia have a more recent history in pharmacy education.<sup>6</sup> Nonetheless, they have accomplished quite a lot in such a short period of time. In fact, nine out of the 11 ACPE-certified pharmacy programs in the world are in Jordan, Saudi Arabia, and the United Arab Emirates (UAE).<sup>3</sup> In addition, all five CCAPP-accredited pharmacy programs outside Canada are in Lebanon, Qatar, and Saudi Arabia.<sup>4</sup> Many of these programs are offering the PharmD degree.<sup>3,4</sup> Although most schools and colleges of pharmacy in the Arab world use English as the primary language of instruction, some institutions in Algeria, Lebanon, Morocco, and Tunisia use French as the primary language of instruction and follow the French model of pharmacy education because of historic ties to France.<sup>5,7-9</sup>

In terms of postgraduate training, the Arab world is home to all the institutions outside the United States that offer postgraduate year one (PGY1) and postgraduate year two (PGY2) pharmacy residency programs with accreditation status by the American Society of Health-System Pharmacists (ASHP).<sup>10</sup> Several hospitals in Egypt, Jordan, Lebanon, Qatar, Saudi Arabia, and UAE offer an ASHP-accredited PGY1 pharmacy residency programs.<sup>10</sup> Cleveland Clinic Abu Dhabi in UAE offers a 24-month ASHP-accredited pharmacy residency that offers residents the opportunity to rotate in a tertiary and quaternary care environment through inpatient pharmacy practice, ambulatory pharmacy practice, medication safety and quality, internal medicine, critical care, infectious diseases, cardiology and elective rotations.<sup>10</sup> King Faisal Specialist Hospital and Research Center in Saudi Arabia remains the only institution outside the United States that offers ASHP-accredited PGY2 residency programs in cardiology, oncology, and solid organ transplant pharmacy.<sup>10</sup> In addition to hospitals that follow the American model of pharmacy training, some hospitals such as Hôtel-Dieu de France in Lebanon offer a residency

**Corresponding Author:** Elias B. Chahine, 901 S. Flagler Dr., West Palm Beach, FL 33416. Tel: 561-803-2735. E-mail: Elias\_Chahine@pba.edu

program in hospital pharmacy modeled after the French system.<sup>11</sup>

In terms of practice and continuous professional development, there is a growing number of pharmacists certified by the Board of Pharmacy Specialties who practice in many countries in the Arab world such as Bahrain (10), Egypt (1107), Jordan (25), Kuwait (40), Lebanon (35), Oman (11), Qatar (107), Saudi Arabia, (542), and UAE (226).<sup>12</sup> Many hospital pharmacists in Saudi Arabia enjoy an advanced level of practice with collaborative drug therapy agreements and prescriptive authority within their institutions.<sup>13</sup> Some clinical pharmacy educators in Lebanon have successfully implemented clinical pharmacy services and are planning to expand their services by hiring more clinical pharmacists.<sup>14</sup>

We believe that the problem in the Arab world is not necessarily the limited capacity of clinical pharmacy education and practice, but rather the lack of standards in pharmacy education, training, and practice, and lack of financial resources in some countries. We often encounter colleagues practicing in the Arab world presenting their projects at national pharmacy meetings in the United States, and we often read about the impact of clinical pharmacy services on patients from this region of the world in international peer-reviewed journals. We encourage these colleagues to continue to spread the word. It is only a matter of time until the rest of the institutions in the Arab world catch up with their leading institutions, and then we can all observe the desired snowball effect.

Elias B. Chahine, PharmD,<sup>a</sup>

Fadi M. Alkhateeb, PhD<sup>b</sup>

<sup>a</sup> Palm Beach Atlantic University, Gregory School of Pharmacy, West Palm Beach, Florida

<sup>b</sup> Qatar University College of Pharmacy, Doha, Qatar

## REFERENCES

1. Al-Ghananeem AM, Malcom DR, Shammass S, Aburjai T. A call to action to transform pharmacy education and practice in the Arab world. *Am J Pharm Educ.* 2018;82(9):Article 7014.
2. Accreditation Council for Pharmacy Education. Programs by State, For International. <https://www.acpe-accredit.org/faq-item/Lebanese-American-University-School-of-Pharmacy/>. Accessed December 18, 2018.
3. Accreditation Council for Pharmacy Education. Directory of Programs with Certification Status Following June 2018 Actions of the Board of Directors. <https://www.acpe-accredit.org/pdf/ISP/DirectoryofCertifiedPrograms.pdf>. Accessed December 18, 2018.
4. Canadian Council for Accreditation of Pharmacy Programs. International Programs, Accredited International Programs. <http://ccapp-accredit.ca/international-programs/list-of-international-programs/>. Accessed December 18, 2018.
5. Chahine EB. Clinical pharmacy education and practice in Lebanon. *ACCP International Clinical Pharmacist.* Fall 2011;1(3):3-4.
6. Asiri YA. Emerging frontiers of pharmacy education in Saudi Arabia: the metamorphosis in the last fifty years. *Saudi Pharm J.* 2011;19(1):1-8.
7. Faculté de Pharmacie de Monastir. <http://www.fphm.rnu.tn/>. Accessed December 18, 2018.
8. Faculté de Pharmacie à Alger. <http://copainsdavant.linternaute.com/e/faculte-de-pharmacie-666108>. Accessed December 18, 2018.
9. Université Hassa II Casablanca. Faculté de Médecine et de Pharmacie. <http://www.fmpc.ac.ma/>. Accessed December 18, 2018.
10. American Society of Health-System Pharmacists. Online Residency Directory. <https://accred.ashp.org/aps/pages/directory/residencyprogramsearch.aspx>. Accessed December 18, 2018.
11. Hôtel-Dieu De France. Pharmacie. [http://www.hdf.usj.edu.lb/files\\_en/serv\\_med.php?serv\\_id=53](http://www.hdf.usj.edu.lb/files_en/serv_med.php?serv_id=53). Accessed December 18, 2018.
12. Board of Pharmacy Specialties. Find a BPS Board Certified Pharmacist, Certification Status by Location. <https://portalbps.cyzap.net/dzapps/dbzap.bin/apps/assess/webmembers/managetool?webid=BPS&pToolCode=certrecord&pRecCmd=StatsByLocation&pPrint=Yes>. Accessed December 18, 2018.
13. Al-Jedai A, Qaisi S, Al-Meman. Pharmacy practice and the health care system in Saudi Arabia. *Can J Hosp Pharm.* 2016;69(3):231-237.
14. Chamoun NR, Saad AH, Btaiche IF, Zalloua PA. Experience with clinical pharmacy implementation: Bridging a gap between academia and practice in Lebanon. *ACCP International Clinical Pharmacist.* Summer 2016;6(2):1-2.