

COVID-19 SPECIAL COLLECTION

SHORT REPORT

Projected niches emerging in pharmacy education among ASEAN countries

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Abstract

This short report aimed to describe the impacts of the Association of Southeast Asian Nations (ASEAN) integration on the Pharmacy education (PE) landscape in the ASEAN region. This report synthesised literature, included journal articles and articles on web pages, and was directed to identify gaps regarding PE harmonisation in the ASEAN region. Later, the authors added the COVID-19 pandemic effects, as this report was written during the outbreak. This report describes two essential points of PE harmonisation, i.e. 1) Variations of PE programmes among ASEAN state members; 2) Contributions of forums involving PE institutions in the ASEAN region. Several gaps were identified in this report. How prepared are the pharmacists and educators? How could the existing PE forums contribute to the collaboration and harmonisation among PE institutions in the region? What can be learned from this current pandemic situation to move forward to the harmonisation in the post-pandemic era?

Introduction

The Association of Southeast Asian Nations (ASEAN) committed to working together to foster the quality of life of the people living in the region (The ASEAN Secretariat, 2019). Higher Education (HE) becomes one of the crucial components, particularly within the socio-cultural community's integration pillar. Harmonisation of HE in a region refers to aligning its actors, structure, and system (Knight, 2012).

Pharmacy education (PE) is crucial due to its contribution to producing the pharmacy workforce. Different ASEAN nations have different regulations and policies for governing PE (Padei, 2010; Holloway, 2011; Pongcharoensuk

& Prakongpan, 2012; Said, 2012; Ahza, 2013; SPC, 2014 Congress of the Philippines, 2016; Faller, Tolentino, & Nagaria, 2019). However, research about the implication of ASEAN integration on the PE landscape is scarce. No research exists on how PE institutions should enhance their partnership to promote their harmonisation in the region. Therefore, this short communication aims to indicate research gaps in this issue.

This report synthesised literature in the area of interest. The search for information was also extended to several websites of Schools of Pharmacy in ASEAN countries. Given the literature's scarceness in the area of interest, any relevant information was considered invaluable and

included in the report. Inevitably, as this article is written during the COVID-19 pandemic, a thought piece is added regarding the pandemic's impacts on the PE partnership and harmonisation in the ASEAN region.

Variance in pharmacy education programmes among ASEAN countries

The PE systems and curricula vary among ASEAN countries. Some ASEAN countries also offer other pathways for entering the pharmacy workforce, i.e., one-year, two-year, and three-year diploma programmes (Vo *et al.*, 2013; Kawaguchi-Suzuki *et al.*, 2019; KPJ Healthcare University College, 2019). The various pathways without a standard will only produce an unskilled pharmacy workforce.

Forums for harmonisation within Schools of Pharmacy in the ASEAN region

There are three School of Pharmacy main forums involving academics and researchers in pharmacy areas. These forums could lead the ASEAN harmonisation. At least two questions ascend from this, i.e., to what extent do such forums facilitate harmonisation of the ASEAN PE and research and what are promising strategies to improve the forums' role in facilitating ASEAN PE harmonisation?

Implications

Some ASEAN countries still lack pharmacists to serve in healthcare delivery services. This situation creates an opportunity for the pharmacist workforce movement among nations. The problem is that variations of core curricula and quality among Schools of Pharmacy will result in differences in pharmacists' competency and capability. No scientific paper has been published to address those questions, therefore, further research is urgently needed. After that, the ASEAN state members' PE leaders should discuss initial steps toward addressing PE harmonisation issues by taking into account critical responses of the gaps questioned.

Does the COVID-19 pandemic affect the Pharmacy Education harmonisation and partnership in the ASEAN region?

It has almost been one year since a viral disease of unknown origin created an outbreak in Wuhan, China in December 2019. SARS-CoV-2 that causes the new infectious disease, called COVID-19, had spread unavoidably

worldwide and was declared a global pandemic by the WHO on 11th March 2020. Since then, all human life aspects on this planet have been affected by the social/physical distancing and geographical restrictions to prevent the COVID-19 widespread. This situation affects teaching and learning activities, including in the PE, as has been reported by several global surveys on HE amid the pandemic, for example, the Institute of International Education (IIE) in the USA and the European Association for International Education (EAIE).

Table I: Variations of Pharmacy education among ASEAN countries

Country	Bachelor of Pharmacy and Registered Pharmacists
Brunei Darussalam	<ul style="list-style-type: none"> A four-year Bachelor of Pharmacy programme (UBD, 2019) Graduates must pass a one-year pre-registration programme in hospitals, health centres, or private sites (Ministry of Health Brunei Darussalam, 2019)
Cambodia	<ul style="list-style-type: none"> A five-year programme including clerkships in hospital, Pharmacy, and pharmaceutical industry Graduates have to pass the national licensing examination (University of Puthisastra, n.d.)
Indonesia	<ul style="list-style-type: none"> A four-year Bachelor of Pharmacy Graduates have to enrol in a one-year pharmacist programme at a tertiary education, which facilitates internships in hospitals, Pharmacy, and pharmaceutical industries. They must pass a national competency examination (APTFI, 2013)
Lao PDR	<ul style="list-style-type: none"> A rather old document noted that pharmacy faculty in Lao PDR is a five-year programme
Malaysia	<ul style="list-style-type: none"> A four-year Bachelor of Pharmacy (UKM, 2019; USM, 2019). Some private universities conduct a three- to four-year programme Graduates are compulsory to pass a pre-requisite for registration (known as houseman ship) by the Pharmacy Board Malaysia for one year (Ministry of Health Malaysia, 2019)
Philippines	<ul style="list-style-type: none"> A four-year Bachelor of Science in Pharmacy degree The programme has mandatory hours of internship in pharmacy practice sites (e.g., hospital and community pharmacy, manufacturing). Graduates have to take the licensure examination (Faller, Tolentino, & Nagaria, 2019; UPM, 2019)
Singapore	<ul style="list-style-type: none"> A four-year undergraduate pharmacy programme (NUS, 2019) Passing a competency assessment held by the Singapore Pharmacy Council (SPC) and completing a one-year pre-registration clinical training programme is compulsory before the registering process in the Singapore Pharmacy Council (SPC, 2019)
Viet Nam	<ul style="list-style-type: none"> A five-year programme (Vo <i>et al.</i>, 2013)
Thailand	<ul style="list-style-type: none"> A six-year Pharm.D. programme Students must pass a national licensing examination (Chanakit, Low, Wongpoowarak, Moolasarn, & Anderson, 2014; Pongcharoensuk & Prakongpan, 2012)
Myanmar	<ul style="list-style-type: none"> A four-year Bachelor of Pharmacy (The University of Pharmacy Yangon, 2019)

Table II: The regional forum involving Schools of Pharmacy in ASEAN countries

Name of forum	Characteristics
The Asian Association of Schools of Pharmacy (AASP)	The AASP holds missions to promote the quality of pharmacy education and research, and the core curriculum and academic standards among its members (AASP, 2018).
Asia Pacific Pharmacy Education Network (APPEN)	APPEN aims to synergise best pharmacy education practices, quality assurance, global mobility, and recognition (MSU in APPEN Conference, 2019).
The Pharmacy Education and Research Network of ASEAN (ASEAN PharmNET)	This forum raises awareness regarding the importance of moving forward together towards collaboration due to the integration (ASEAN PharmNET, 2015).

In terms of harmonisation and partnership in PE education in the ASEAN region context, the COVID-19 pandemic creates both opportunities and challenges. The opportunities can be listed as follows:

1. Online seminars make the ASEAN region's faculty members and students more comfortable with contributing actively, either as speakers or participants. The online meeting platform reduces the cost and time required to travel across the region. Fortunately, the time difference between countries is not a barrier;
2. Hybrid or blended teaching and learning allow students in the region to attend the available international classes. The mixed synchronous and asynchronous learning potentially unfolds access to learning materials put in the social media channels or on the university website;
3. PE institutions could arrange collaborative strategies and efforts in combating the pandemic, either through research or community engagement and services. These could increase, either new or existing, collaborations and partnerships among PE schools in the region through virtual faculty members' and students' mobility and shared learning materials.

Besides, some challenges emerged during the pandemic:

1. Perhaps, some of the PE institutions have to focus mostly on the domestic problems and resources regarding COVID-19 issues that prevent their participation in the region;
2. Limited or no access to physical interactions, such as laboratories and fieldwork, force the PE institutions

to create innovative and accommodative programmes without reducing the quality standards and curricula;

3. In the regional collaboration context, virtual student mobility is likely to prevent PE institutions from deep learning about the region's culture and social environment.

What can be learned from this current situation for the post-pandemic era:

1. Distance learning can be adopted into the harmonisation frame;
2. Collaborative research among PE faculty members in the region would strengthen the region's problem-solving;
3. Regional partnerships in community engagement activities would facilitate a deep understanding of the region's culture, socio-economic situation, and the healthcare system.

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References

AASP [Asian Association of Schools of Pharmacy]. (2018). The 5th Asian Association of Schools of Pharmacy (AASP) Deans Forum Framework for a Core Curriculum for Asian Schools of Pharmacy. Available at: https://www.medmeeting.org/Upload/user/785821/file/20180709/20180709224506_1487.pdf

Ahza, A.B. (2013). Country Report for the Roundtable Meeting of Quality Assurance Agencies of the Organization of Islamic Conference Member Country. Jakarta

APTFL. (2013). Naskah Akademik Standar Kompetensi Lulusan dan Standar Kurikulum Pendidikan Farmasi Program Studi Sarjana Farmasi dan Profesi Apoteker

ASEAN PharmNET. (2015). The 1st International Conference on Pharmacy Education and Research Network of ASEAN Harmonizing the Diversity of Pharmacy Profession in the Era of AEC. Available at: <https://www.pharmacy.mahidol.ac.th/aseanpharmnet1/main.php>

Congress of the Philippines (2016). An Act Regulating and Modernizing the Practice of Pharmacy in the Philippines, Repealing for the Purpose Republic Act Numbered Five Thousand Nine Hundred Twenty-One (R.A. No. 5921), Otherwise Known as the Pharmacy Law. Available at: https://www.lawphil.net/statutes/repacts/ra2016/ra_10918_2016.html

- Chanakit, T., & Low, B.Y., Wongpoowarak, P., Moolasarn, S., & Anderson, C. (2014). A survey of pharmacy education in Thailand. *American Journal of Pharmaceutical Education*, **78**(9). <https://doi.org/10.5688/ajpe789161>
- Faller, E., Tolentino, E., & Nagaria, R. (2019). Pharmacy Practice in the Philippines. In *Encyclopedia of Pharmacy Practice and Clinical Pharmacy*, (ed. Z.-U.-D. Babar). Academic Press, Cambridge, MA., pp.546-555
- Holloway, K.A. (2011). Myanmar - Drug Policy and Pharmaceuticals in Health Care Delivery. World Health Organization, New Dehli
- Kawaguchi-Suzuki, M., Hogue, M.D., Khanfar, N.M., Lahoz, M.R., Law, M.G., Parekh, J., Zairina, E., Hong, J., Robles, Y.R., & Van Thang, V. (2019). Cultural sensitivity and global pharmacy engagement in Asia: India, Indonesia, Malaysia, Philippines, and Vietnam. *American Journal of Pharmaceutical Education*, **83**(4). <https://doi.org/10.5688/ajpe7215>
- Knight, J. (2012). A Conceptual Framework for the Regionalization of Higher Education: Application to Asia. In *Higher Education Regionalization in Asia Pacific*, (eds. J.N. Hawkins, K.-H. Mok, & D.E. Neubauer), Palgrave Macmillan, New York, pp.17-35. https://doi.org/10.1057/9781137311801_2
- KPJ Healthcare University College. (2019). Diploma in Pharmacy. Available at: <https://www.kpjuc.edu.my/dip-in-pharmacy/>
- Ministry of Health Brunei Darussalam. (2019). Career as a Pharmacist. Available at: [http://www.moh.gov.bn/SitePages/Career in Pharmacy.aspx](http://www.moh.gov.bn/SitePages/Career%20in%20Pharmacy.aspx)
- Ministry of Health Malaysia. (2019). Qualifying Examination to Practice Pharmacy. Available at: <https://www.pharmacy.gov.my/v2/en/content/qualifying-examination-practice-pharmacy.html>
- MSU in APPEN Conference. (2019). Management and Science University (MSU) co-organized the 8th Asia Pacific Pharmacy Education Network (APPEN) International Joint Symposium in 2019. Available at: <https://msu.edu.my/MSUnews/Oct2019-Asia-Pacific-Pharmacy-Education-Network-International-Joint-Symposium>
- NUS. (2019). Undergraduate Programmes. Available at: <https://pharmacy.nus.edu.sg/study/undergraduate/>
- Padei, T. (2010). Royal Decree on the Establishment of the Pharmacists' Council of Cambodia. Office of the Prime Minister (Cambodia)
- Pongcharoensuk, P., & Prakongpan, S. (2012). Centennial pharmacy education in Thailand. *Journal of Asian Association of Schools of Pharmacy*, **1**, 8-15
- Said, M. (2012). A Snapshot on Public Health Care: Brunei Darussalam. Available at: http://asiainforum.com/documents/health-forum2012/Snapshot_of_Public_Health_Care.pdf
- SPC. (2014). Singapore Pharmacy Council. Available at: http://www.healthprofessionals.gov.sg/content/hprof/spc/en/leftnav/becoming_a_pharmacist_for_nus_graduates.html
- SPC. (2019). Becoming a Pharmacist. Available at: <https://www.healthprofessionals.gov.sg/spc/becoming-a-pharmacist>
- The ASEAN Secretariat. (2019). ASEAN Member States. Available at: <https://asean.org/asean/asean-member-states/>
- The University of Pharmacy Yangon. (2019). University of Pharmacy (Yangon) Undergraduate (online). Available at: <http://www.uopygn.gov.mm/Main/content/page/programs>
- UBD. (2019). BSc Pharmacy. Available at: <http://ihs.ubd.edu.bn/undergraduate/bhsc-pharmacy-entry/>
- UKM. (2019). Faculty of Pharmacy, UKM. Available at: <http://www.ukm.my/farmasi/>
- University of Puthisastra. (n.d.). Faculty of Pharmacy. Available at: <https://www.puthisastra.edu.kh/faculty-of-pharmacy/>
- UPM. (2019). College of Pharmacy University of the Philippines Manila. Available at: <http://cp.upm.edu.ph/wp-content/uploads/2018/08/BSP-Curriculum-2018.pdf>
- USM. (2019). About School Of Pharmaceutical Sciences. Available at: <http://www.pha.usm.my/>
- Vo, T.H., Bedouch, P., Nguyen, T.H., Nguyen, T.L.H., Hoang, T.K.H., Calop, J., & Allenet, B. (2013). Pharmacy education in Vietnam. *American Journal of Pharmaceutical Education*, **77**(6). <https://doi.org/10.5688/ajpe776114>

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