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## REVIEW

# The role of pharmacists in developing countries: The current scenario in the United Arab Emirates



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**Abstract** Pharmacy practice has passed several rounds of advancements over the past few years. It had changed the traditional positioning criteria of pharmacists as business people into patient-centered healthcare professionals. This worldwide shift is increasingly accumulating pressure on UAE pharmacists to turn up into better level of service providing accompanied with higher demand of inter-personal skills and intellectual capabilities. This can be accomplished through stressing the significance of continuing pharmacy education in basic sciences as well as social and administrative pharmacy techniques and its collaboration in elevating the quality of pharmacy practice in the UAE.

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## 1. Introduction

Over the last 20 years, pharmacists' role has transformed from product orientation services into patient centered services in many parts of the world (Anderson, 2005; Andrew, 2004; Anne et al., 2010). Within the context of practice change, most of the times there is a need for the pharmacist to interact with patients and their health service provider for optimizing the delivery of pharmaceutical care services. In order to effectively perform this role, other than strong knowledge in pharmacotherapy, new generation pharmacists also need to equip themselves in fields such as sociology, management, pharmaco-economics and psychology.

## 2. Spheres of pharmacy practice in UAE

There are four basic spheres for any person who desires to be a part of the profession in the United Arab Emirates (UAE). The first is to master the pharmaceutical sciences by acquiring the needed knowledge and intellectual capabilities (Wong, 2001; Christine, 2010). This can be gained through undergraduate pharmacy degree courses available at present in the UAE at 7 colleges: Ajman University of Science and Technology, Sharjah University, Gulf Medical University, Al-Ain University of Science and Technology, Dubai Pharmacy College, Ras Al-Khaimah Medical University, and Higher Colleges of Technology – Dubai Women College. Pharmacy education was first established in the UAE in the year 1992 by Dubai Pharmacy College which provided bachelor degree certificates to female students (DPC, 2013), and since then, many other colleges and universities started graduating a significant proportion of pharmacists per academic year needed to saturate the market domestically. However, Most of the registered pharmacists have acquired their undergraduate degrees from universities and colleges outside the country. This is due to the fact that most of the registered pharmacists in the U.A.E. are expatriates (Kheir et al., 2008).

The second sphere is the presence of a national association representing all pharmacy practitioners. Emirates Medical Association (EMA) and its specialized section namely Emirates Pharmacy Society (EPS) were a trial in the direction of promoting pharmacy practice, protecting the interests of its members and end-users, and encouraging the advancement of the pharmaceutical science (EMA, 2013). Nevertheless, its current role is restricted to providing certified continuous medical education (CME) credit hours required by the Ministry of Health (MOH) to renew most of the medical practitioners' licenses on yearly basis.

The third sphere relates to the professional code of conduct and ethics which guides all pharmacy practitioners. In 2001, MOH issued a guide booklet about the "Professional Code of Conduct for Primary Healthcare Staff" (MOH, 2001). It contained detailed information about the definition of ethics

for medical practitioners including pharmacists. A lot of information provided was stated in articles 16 and 17 in the UAE federal law number 4 of 1983 for the pharmaceutical professions and institutions (MOH, 1983).

The forth sphere of a learned profession is the stipulation by its practitioners of uniform professional services and advice to the patients. This includes supplying medicines to public, in addition to providing appropriate advice to patients during the dispensing and counseling process.

Pharmacy, as a solid science profession, was almost relying on its pharmacological, chemical, and pharmaceuticals scientific knowledge parts since old ages. Appearance of higher patients' expectations and development of the discipline of social and administrative pharmacy as a concept and applying it to reality brought to pharmacy practice several rounds of professional metamorphosis. As a result, pharmacy practice has been defined in a variety of ways.

## 3. A fast developing country

UAE is one of the Gulf Cooperation Council states in the Middle East region. It is a constitutional federation that was established on 2nd of December 1971 (Wikipedia, 2013). The UAE constitutes 7 Emirates; Abu Dhabi (the capital), Dubai, Sharjah, Ajman, Umm Al-Quwain, Ras Al-Khaimah, and Fujairah. It lies between Oman and Saudi Arabia, and has coastal borders on the Arabian Gulf and the Gulf of Oman (CIA, 2012). The UAE is a rich country and has gross domestic product (GDP), per capita, of around \$52,435 (UN, 2011). About one third of the GDP is gained through petroleum, oil, and gas (CIA, 2012). The UAE has a diverse and a fast expanding population which was estimated to break the mark of 8 million in 2010. However, UAE nationals are considerably few compared to expatriates (non-citizens) who constitute approximately 88.5% of the total population (NBS, 2010). Due to this reason, most of the work force in the UAE is made up of expatriates; who mostly come from other Arab countries, Iran, South East and South Asia (particularly from India, Pakistan, and Philippines).

The UAE has an expenditure on healthcare of about 2.8% of the GDP (WHO, 2012). This relatively low percentage can be justified by the fact that the government only spends on UAE citizens in terms of delivering healthcare services in addition to the country's high income.

Demands on healthcare services are continuously expanding in the country due to the dramatic influx of expatriates. This instigated the government to establish diverse, publicly-funded healthcare services by investing in private health sector and was partly a reason to form 2 semi-centralized health authorities namely Health Authority of Abu Dhabi (HAAD) and Dubai Health Authority (DHA) in Abu Dhabi and Dubai respectively. These 2 new regulatory bodies are increasingly contributing in enriching the medical practicing environment

that was solely controlled by MOH in terms of licensing and controlling healthcare organizations and institutions and its professional practitioners.

The availability of 3 health regulatory authorities has provided the medical sector as a whole many advantages such as promoting and enhancing the medical professional practice plus increasing the quality of the services provided by health facilities. Despite that, some drawbacks arose like dividing delegation of authority between the MOH and the one handled by the new regulatory bodies. This particular minor conflict added an evolving need to clearly define functions among the three operating health authorities in the country in order to avoid any possible financial and effort exhaustion on some healthcare facilities caused by undefined level of command.

#### 4. Pharmacy practice scenario

In general, a variety of views have been presented on this matter. Some consider the practice of pharmacy a profession; others look at it as a business (Paul and Gregory, 2010). There is no sharp edge description or definition on how pharmacy practice should be in the UAE. Perhaps the difficulty is because of the co-existence of both specialized and generalized professional services which the profession offers in country.

Before the existence of HAAD and DHA; pharmacy practitioners who held a bachelor of pharmacy and/or a diploma of pharmacy certificate from any accredited college or university were requested to appear in 2 scientific exams; pharmacology and pharmacy law exams by MOH. Passing these exams was a guarantee that a pharmacist or an assistant pharmacist is allowed to work as a registered practitioner in any pharmaceutical organization across the UAE (MOH, 2012). Nowadays; a pharmacist in Abu Dhabi is only requested to pass HAAD scientific exam in order to get a professional practicing license where as a pharmacist in Dubai is still required to hold both MOH as well as DHA licenses to work inside the Emirate. Every pharmaceutical organization was – and still is – required to register at least one pharmacist while licensing. In addition, few practice requirements were needed by MOH from pharmacists. Some of them were adhering to the profession code of ethics, providing proper consultation to patients when needed, renewing the professional license every year, keeping a record on semi and full-controlled medications specified by MOH and providing a monthly report on its transactions, and maintaining and monitoring inventory in the pharmacy (MOH, 2003).

A typical community pharmacy in the UAE sells human medications along with other general items such as perfumes, cosmetics, baby health products, and few medical apparatus. A pharmacist is probably expected to deliver professional assistance to patients through dispensing medicines, advising patients on the proper use of it, and explaining usage

frequency besides any drug–drug interaction. Additional services are consulting customers on the use of cosmetics, food supplements, and other products like diabetic care machines, weight reduction, and wound care.

Pharmacy practice in the UAE varies from one pharmacy to another. Chain-store and franchised brand pharmacies usually offer a significant proportion of non-professional services alongside the traditional professional services. Smaller independent pharmacies normally focus on professional pharmacy services. Both types are representative of private pharmacy practice in the UAE. On the other hand, pharmacy practice in the government sector is quite different. Government pharmacies are mainly available inside government hospitals. They are either in-patient or out-patient pharmacies. Pharmaceutical and medical products are available for free for UAE nationals who hold a valid UAE passport along with a serial national number. A government pharmacist mostly fills prescriptions generated by the hospital's physicians and explains the doses to be consumed by patients.

#### 5. Shift in pharmacy practice

There are nearly 2000 private pharmaceutical organizations among the UAE which are staffed by pharmacists and assistant pharmacists from over 20 countries (MOH, 2003). Table 1 shows the number and description of pharmaceutical organizations in the UAE till the end of April 2011 (MOH, 2011).

Yet not enough; The number of pharmacies is rapidly growing in the country due to higher demand of healthcare services caused by fast population growth from both UAE nationals and expatriates in addition to the development of many new civilized towns and cities which required availability of advanced healthcare services. Newer statistics stated that the number of registered pharmacists was about 300 every year between the years 2005 till 2010. Table 2 shows a comparison between the number of licenses issued between 2005 and 2010 in Dubai and Northern Emirates (MOH, 2011).

In fact, the number of registered pharmacists in the UAE remains lower than the accepted worldwide number of pharmacists serving a population of 10,000 in a country. The proportion of pharmacists to 10,000 citizens in the UAE was about 4 in 2002 (MOH, 2002). This proportion is about half the proportion in countries like United Kingdom and United States of America (IPF, 2009).

This fast growth in public demand level elevated customers' expectations about the services pharmacists must adhere to while practicing their profession. For this reason; the regulatory bodies have risen to the occasion by pushing toward

**Table 1** Pharmaceutical organizations' description till 2011.

Pharmaceutical organization	Total number
Private pharmacy	1481
Medical store	241
Scientific office	23
Pharmaceutical factory	13
Total	1758

**Table 2** New pharmaceutical licenses issued between 2005 and 2010.

License type	2005	2006	2007	2008	2009	2010
Private pharmacy	94	80	76	65	69	82
Hospital pharmacy	1	0	5	2	3	3
Medical store	10	14	18	13	18	37
Pharmaceutical factory	0	3	2	1	0	0
Scientific office	1	2	2	1	3	3
Pharmacist	264	305	344	351	344	331
Assistant pharmacist	94	111	161	222	142	156

enhancing quality of services provided by registered pharmacists in the country. For example, newer licensing and regulatory requirements by HAAD which currently controls Abu Dhabi, Al-Ain city, and the western region require a compulsory of 20 accredited CME credit hours per year in order to renew the professional license (HAAD, 2007). This requirement for practicing pharmacists is a universal trend carried out by most advanced nations and it is recently being followed out by the MOH and DHA authorities. Another new major requirement by HAAD was the introduction of “JAWDA” program which is an Arabic word that means quality (HAAD, 2011). This program is basically a grading system for all pharmacies within Abu Dhabi region. It consists of auditing pharmacies about 3 times per year. Each facility is ranked according to a number of checklists designed for three categories of pharmacies namely inpatient pharmacy, outpatient pharmacy, and drug store. These include employees’ communication, infrastructure, dispensing and labeling systems, narcotic substances storage and records, medication reliability, and customer service and their compliance with the regulations (Olivia, 2012). Other new requirements by HAAD are the monthly submission of self inspection report, and availability of internet connection in each pharmacy to receive circulars and notices online and to use the e-services provided on its website like renewing the professional and practitioners licenses. The latest requirements for Abu Dhabi pharmacies are designing a patient’s counseling area in each pharmacy with an accepted degree of privacy, and restricting the reach of customers to shelves containing medicines (HAAD, 2005).

Similarly; DHA – which is controlling licensing procedures alongside the MOH in Dubai – had introduced some newer, updated requirements and operative laws and circulars which helped in enhancing pharmacy practice scenario in this busy and fast growing city. An example is mandating pharmacists to acquire malpractice insurance policies in order to backup their legal and financial rights in cases of wrong dispensing or serious complications caused by dispensing medicines with drug–drug interactions (DHA, 2010). This major advancement partly eased the worries by pharmacists who sometimes felt that they did not have enough rights and protection. Health and pharmacy services in the rest five Emirates continue to be under the mandate of the MOH.

In general terms, pharmacy practice in the UAE has many strengths and prospective future. A note worthy point to mention about one of its positive features is the complete separation between physicians’ and pharmacists’ professions. This means that a pharmacist – in most of the cases – has a full control over the supply of medicines to patients. HAAD had moved further in this pathway; as it announced in its circular number (PHP/PHM/P0003/09) which was published in May, 2009 a new policy for prescription writing by physicians. This new regulation allowed physicians to write generic names in their prescriptions instead of writing trade names. The pharmacist carries the right to choose between trade names available in the pharmacy (HAAD, 2010). This new legislation provided a significant advantage toward limiting unethical marketing and selling techniques used to exist through some of the medical representatives while promoting their medicines to physicians. It also gave pharmacists more attention by principal pharmaceutical companies to their role completing the medical professional supply chain.

## 6. Pharmacy practice in UAE: The next leap

At present there are only 4 documented publications about the pharmacy practice scenario in the UAE (Majd, 2009; Hasan et al., 2011, 2013, 2012). The study by Dameh (2009) focused on some aspects of pharmacy practice especially strengths and challenges that pharmacists face in their daily practice (Majd, 2009). On the other hand, the study by Sanah et al. (2011) measured some barriers to pharmacy services such as the lack of time to offer services, shortage of staff inside the pharmacy, lack of patient demand and acceptance, lack of appropriate knowledge and skills by pharmacists, lack of financial reward from services, underestimation to enhanced pharmacy services by physicians, and legal and regulatory constraints (Hasan et al., 2011).

More studies must be pointed toward the need to standardizing the basic knowledge and skills of registered pharmacists in UAE. In fact, MOH licensing procedures which include a two year community pharmacy training requirement and examinations might not be quite enough to judge their real strengths and abilities.

Another future study area is to explore the legislations in UAE which were more comprehensive in the past in order to help in minimizing the bureaucracy in daily pharmacy transactions. An example is the regulation which restricted the sale of most of medicines without a prescription. In actuality, strict observance to the law only applies to some medicines like narcotics or any medicine that can cause dependence, and sex hormones (Abdul Rasool et al., 2010). Moreover, the relationship between pharmacists in UAE and their customers must be understood in a better way in order to measure differences among different types of customers acknowledging the fact that human nature shows differences between people because of many factors such as culture, religion, gender, educational level, age, and income level. These factors could accumulate to form a kind of perception about health services provided by a pharmacist. By posing a spotlight on the importance of pharmacy continuing education; a pharmacist in UAE will acquire extra interpersonal and management principles required to deal with every customer as a unique case and to retain highest rate of patients’ satisfaction and adherence to medications (Gu et al., 2008).

Frustration of some pharmacists across UAE might be one more point to study. According to them, reasons for such phenomena are the underestimation to their profession’s importance by other medical practitioners, public, and media which sometimes frames the pharmacist as a medicine seller or a business person.

## 7. Conclusion

In conclusion, this overview work provided an insight about the pharmacy practice scenario in the UAE. It illustrated the country’s demographics and pharmacists’ registration requirements. In addition, this paper acknowledged the fact that there might be a number of challenges and barriers to optimized pharmacy services that can be explored by quantitative and qualitative methods in future studies.



## Conflict of Interest

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

## Disclaimer

The views expressed in the submitted article are of our own and not an official position of the institutions we belong to.

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## Ethical Approval

Institutional ethics committee approvals were obtained from Universiti Sains Malaysia's Ethics Committee in Malaysia and Ajman University of Science and Technology's Ethics Committee in the United Arab Emirates.

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