

Pharmacy in the United Arab Emirates

Majd Dameh

New Zealand's National School of Pharmacy, University of Otago, Dunedin, New Zealand.

Corresponding Author: Majd Dameh New Zealand's National School of Pharmacy, University of Otago, Dunedin 9054, New Zealand. E-mail: damma696@student.otago.ac.nz

Introduction

Pharmacy profession is evolving steadily in the United Arab Emirates (UAE). This article presents a brief overview of the profession, and highlights some of the advances and challenges that face pharmacy in the UAE.

The United Arab Emirates (UAE) is one of the Gulf Cooperation Council Countries of the Middle East. It is a constitutional federation that was established in 2nd of December 1971. The UAE constitutes seven Emirates; Abu Dhabi (the capital), Dubai, Sharjah, Ajman, Umm Al-Qaiwain, 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. The UAE is a rich country and has a gross domestic product (GDP), per capita, of around \$49,116 (PPP US\$)¹. Nearly one third of the GDP is attributed to petroleum, oil and gas². The UAE has a diverse and expanding population, estimated to be around four and a half million. UAE citizens however are considerably outnumbered by expatriates (non-citizens), they constitute approximately only one fifth of the overall population. Seventy four per cent of the UAE population aged between 15-64 years are expatriates¹. Expatriates make up the majority of the work force in the country and mostly come from other Arab countries, Iran, South and South East Asia (predominantly from India, Pakistan and the Philippines).

The country's total expenditure on healthcare as a percentage of GDP is 2.6%³. It is estimated that 71.6% of that expenditure is provided by the Government and 28.4% is private expenditure. The majority (77.9%) of private expenditure on health is attributed to out-of-pocket expenditure³. The

continuous increased demand due to the large influx of expatriate workers into the country, especially in the past five years, and rising costs of technology are believed to have over-loaded the publicly funded healthcare services and increased the UAE Ministry of Health's budget by 4.5% per year⁴. This instigated the Government to invest in the private health sector and mandate medical insurance for expatriates in Abu Dhabi, the largest Emirate in terms of size and population (1.7 million)⁵. Abu Dhabi's new health insurance program includes three types of policies; basic, enhanced and emergency health policies⁵. By 2007, 1.3 million expatriates residing in Abu Dhabi were covered by health insurance⁵. The remaining six Emirates continue to follow the previous health system in delivering healthcare. Whereby, expatriates are required to purchase annual healthcare cards to receive subsidised healthcare services (not including pharmaceuticals). Private health insurance in the remaining six Emirates is voluntarily available to whoever can afford it.

Also in recent years, new health authorities namely the Health Authority of Abu Dhabi and the Department of Health and Medical Services of Dubai emerged taking on the management and regulation of health services in Abu Dhabi and Dubai respectively. This role includes licensing pharmacies and registering pharmacists. The new authorities collaborate and have formed partnerships with several international institutions. For example the Health Authority of Abu Dhabi functions in partnership with Johns Hopkins and the Cleveland Clinic among other institutions⁶. Health and pharmacy services in the remaining five Emirates continue to be under the mandate of the UAE Ministry of Health.

Pharmacy and Pharmacists in the UAE

Pharmacy in the UAE is rapidly advancing. There are definite strengths in UAE pharmacy for example; the pharmaceutical industry and pharmacy practice has been encompassed in the UAE Federal Law since the early 1980s. The prime legislation that regulates medicines and pharmacy in the country is the UAE Federal Law number 4 of 1983 for Pharmaceutical Professions and Institutions⁷. Pharmaceuticals were among the first products available to consumers in the UAE, which underwent regulation in terms of registering, licensing, and pricing. In more recent years, herbal medicine acquired special attention and comprehensive regulation in the country. In the mid 1990s, the Office of Complementary and Alternative Medicine was established at the UAE Ministry of Health to regulate herbal medicines and license pharmacists and pharmacy technicians practicing in this area. In 2007, Zayed's Complex for Herbal Research and Traditional Medicines was recognised by the World Health Organisation (WHO) and designated as a WHO Collaborating Centre for Traditional Medicine⁸. Last but not least, pharmacy administrative and policy makers are genuinely eager and determined to bring progress and reform into the pharmacy profession in the UAE.

On the other hand, there are several challenges that face pharmacy in the UAE. Although the numbers of pharmacists in the UAE are increasing, there is yet a shortage of pharmacists required to fulfil retail, hospital, industry, government and teaching positions in the country. It is documented that numbers of pharmacists in the public sector increased from 60 to 325, in the twenty two years from 1975 to 1997⁹. According to the latest WHO core health indicators (2002 estimate) the number of pharmacists in the UAE was 1200, while pharmacist density per 1000 population was 0.4¹⁰. In saying that, the latest figures published by the UAE Ministry of Health in 2005, state that 531 pharmacists were registered in the Emirate of Abu Dhabi alone. However, there is an obvious shortage and it has been reported that only 4.1% of pharmacists in the UAE are UAE citizens¹¹. Also, it is documented that there were only 20 UAE citizen pharmacists in the country in 2002¹². Another noteworthy point to mention is that the UAE lacks an independent professional body for pharmacy practice, similar to ones in neighbouring countries;

the Saudi Pharmaceutical Society or Kuwait Pharmaceutical Association.

Secondly, although some aspects of the pharmaceutical legislation are comprehensive, they can only be effective to the extent that they are adhered to. For example the law prohibits the sale of all prescription medicines without the presentation of prescriptions. In actuality however strict observance to the law only applies to some medicines namely male sex hormones, narcotics, hypnotics, tranquilizers and other agents that can cause dependence. A wide range of prescription medicines including antibiotics,¹³ asthma inhalers, insulins and other anti-diabetics, cholesterol lowering and anti-hypertensive medications are commonly sold over-the-counter.

Also, as mentioned above, very few UAE citizens are pharmacists yet the law specifies that pharmacies must be owned by UAE citizens. As a result the majority of pharmacies in the country are owned by non-pharmacists. Nevertheless, the law mandates that pharmacy operation and management must be under direct supervision of a registered pharmacist at all times. In this scenario, business orientation rather than professional and quality health care appears to dominate over private pharmacy practice. Most of private pharmacies in the UAE do not use computerised dispensing or keep customers' medicine records. However, monthly stock balance records of purchased and dispensed narcotics and psychotropics are kept and reported to regulating authorities.

Dispensing is mostly carried out by pharmacy technicians, while pharmacists fulfil administrative and managerial roles in private pharmacies. Pharmacist-led patient counselling is usually limited to the dosage and frequency of the medications they purchase. Occasionally and on patients' request, pharmacists' advise patients about adverse reactions and drug interactions with other medications. Patients' medication reviews and therapy management rarely occurs in private pharmacies. Pharmacists working in hospital pharmacies, especially hospitals under the management of international institutions, get the chance to experience more professional and various aspects of clinical pharmacy.

Pharmacy Education

Pharmacy education and the establishment of private pharmacy colleges in the UAE began about two decades ago. This was in response to the demand for pharmacists to work in hospitals, at private community pharmacies, and the growing pharmaceutical industry in the UAE and Middle East region. Furthermore, an increasing number of high school graduates were travelling to neighbouring countries namely Jordan and Egypt, to obtain pharmacy qualifications. The first two private institutions established in the UAE were the Dubai Pharmacy College, which was established in 1992, and the Faculty of Pharmacy and Health Sciences at Ajman University of Science and Technology, which was established in 1996.

The large expenses incurred in recruiting overseas pharmacists and the limited numbers of UAE citizens working in the field of pharmacy led the Government to introduce two additional pharmacy programs at the UAE Higher Colleges of Technology. The Higher Diploma in Pharmacy (DipPharm) commenced at Dubai Women's College in 1997. More recently in 2003, the Bachelor of Pharmacy (BPharm) degree was proposed as a one year add-on to the three year DipPharm program. Initially, Dalhousie University of Canada, Purdue University of the USA and Anglia Polytechnic University of the UK were explored for the bench marking of the bachelor degree. Finally it was reviewed by the Canadian Council for Accreditation of Pharmacy (CCAP) programs in 2007. The program entered into a pilot accreditation project with CCAP in 2008. Both programs are on offer exclusively to female UAE citizens, as a step towards increasing the involvement of UAE citizens in the field of pharmacy.

However, two more pharmacy colleges were recently established in the UAE. The College of Pharmaceutical Sciences at Ras Al-Khaimah Medical and Health Sciences University, and the College of Pharmacy at Al-Ain University in Al-Ain city. Both were established in 2006, for male and female students of any nationality.

All pharmacy courses offered in the UAE are taught in English. The pharmacy curricula include basic foundation and health sciences in the first year. Advanced pharmacy courses; pharmaceutical and medicinal chemistry, pharmacokinetics,

pharmacology, clinical pharmacy and applied therapeutics, as well as pharmacy practice, are taught in the later years. To date, the Bachelor of Pharmacy degree is the major pharmacy degree offered in the UAE. As of yet, Doctor of Pharmacy degree programs are not offered in any of the pharmacy colleges in the UAE. On average the Bachelor of Pharmacy programs take four years of full time study (150-222 credit hours) plus required practical experience (ranging between 9-35 weeks) in hospital and community pharmacy as well as in the pharmaceutical industry¹⁴.

Pharmaceutical Industry

The UAE has developed a significant pharmaceutical manufacturing base since the early 1980s. The cornerstone of the UAE pharmaceutical industry began with the establishment of Gulf Pharmaceutical Industries, known as Julphar in the Emirate of Ras Al-Khaimah in 1980. The industry expanded further in the past few years with the emergence of new companies such as Neopharma in Abu Dhabi, Globalpharma and Gulf Injects in Dubai, and Medpharma in Sharjah. This boost in local production was mainly due to introducing special tax free trade zones such as Dubai Healthcare City. To date, in total there are ten pharmaceutical and disposable medical syringe manufacturing companies in the UAE⁴.

Concluding Remarks

Pharmacy profession in the UAE has taken presumptuous steps in recent years. A few examples include reassessing competency standards and promoting continuous professional development among pharmacists, and establishing a national medicines information and poison centre. The increased involvement of UAE citizens in pharmacy in the past few years is remarkable. The first female UAE citizen pharmacist, who achieved a Doctorate degree in Pharmacy from a university abroad, has implemented an intervention to reduce antibiotic overprescribing for respiratory infections in hospitals in two Emirates of the UAE¹⁵. Undoubtedly with these positive initiatives pharmacy in the UAE is predicted to grow and make a substantial difference in the quality use of medicines as well as in the patient care and public health of the country.

References

1. UNDP Human Development Report of 2007/2008, 2008 Statistical Update. http://hdrstats.undp.org/2008/countries/country_fact_sheets/cty_fs_ARE.html (accessed 21st March 2009).
2. Central Intelligence Agency. The World Factbook 2008: UAE. <https://www.cia.gov/library/publications/the-world-factbook/geos/ae.html> (accessed 21st March 2009).
3. World Health Organization. United Arab Emirates National Health Accounts: World Health Statistics 2008. <http://www.who.int/countries/are/en/index.html> (accessed 21st March 2009).
4. UAE at a glance. http://www.uaeinteract.com/uaeint_misc/glance/ataglance.pdf (accessed 21st March 2009).
5. Health Authority Abu Dhabi. Abu Dhabi Health Statistics 2007. <http://www.haad.ae/HAAD/LinkClick.aspx?fileticket=mqZ%2f%2fS9She8%3d&tabid=349> (accessed 21st March 2009).
6. Health Authority Abu Dhabi. Cleveland Clinic and Health Authority Abu Dhabi Partner to Reshape Healthcare in the Region. <http://www.haad.ae/haad/tabid/58/Mid/417/ItemID/24/ctl/Details/Default.aspx> (accessed 21st March 2009).
7. UAE Ministry of Health. Pharmacy Federal Law. http://www.moh.gov.ae/admincp/assetsmanager/Files/Pharmacusts/Pharmacy_Federal_law_in_English.pdf (accessed 21st March 2009).
8. World Health Organization. WHO Collaborating Centres Global Database. http://www.who.int/whocc/Detail.aspx?cc_ref=UAE-1&cc_code=uae (accessed 21st March 2009).
9. The UAE Ministry of Planning "Economic and Social Indicators in the UAE from 1990-1995", 1988.
10. World Health Organization. United Arab Emirates Core Health Indicators. http://www.who.int/whosis/database/core/core_select_process.cfm?country=are&indicators=healthpersonnel (accessed 21st March 2009).
11. Kronfol NM. "Perspectives on the health care system of the United Arab Emirates". *East Mediterranean Health Journal*. 1999; 5(1):149-67.
12. Higher Colleges of Technology. Dubai Women's College. Bachelor of Pharmacy Feasibility Study – October 2002. http://rds.yahoo.com/_ylt=A0oGkmT39LZJ.HsBPe5XNyoA;_ylu=X3oDMTEydGc5MWtkBHNlYwNzcgRwb3MDOARjb2xvA3NrMQR2dGlkA0Y2NTVfNzU-/SIG=15foea8in/EXP=1236813431/**http%3a//dwc.hct.ac.ae/pqa/pqa/docs/hs/PQA-April2004/BAS%2520Degree%2520programmes%2520proposal%2520and%2520feasibility/B.Pharm%2520Feasibility%2520Study.doc (accessed 21st March 2009).
13. Dameh M, Norris P, Green J. "Over-the-counter Sale of Antibiotics in Abu Dhabi City" *International Journal of Pharmacy Practice*, ISPW Abstracts 2008, 16(Suppl. 2): B4-5.
14. Kheir N, Zaidan M, Younes H, El Hajj M, Wilbur K, Jewesson PJ. "Pharmacy Education and Practice in 13 Middle Eastern Countries". *American Journal of Pharmaceutical Education* 2009; 72(6): Article 133. <http://www.ajpe.org/aj7206/aj7206133/aj7206133.pdf> (accessed 21st March 2009).
15. Rania Al Hussaini, Gulf News 10/14/2006. "Advocating judicious use of antibiotics" <http://archive.gulfnews.com/articles/06/10/14/10074498.html> (accessed 21st March 2009).