

An overview of dental education in the Arab world *by Zaid H Baqain*

Dentistry is a well-respected healthcare profession in Arab countries. An increase in the number of applicants led to students seeking dental education abroad and, lately, to the establishments of dozens of private dental schools, whereas dental education had traditionally been public, with subsidised tuition fees. Dental educators have therefore faced challenges in maintaining standards and ensuring appropriate oral healthcare provision.

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Historically

Arab and Muslim scholars contributed significantly to medical and dental literature in the early Middle Ages. From Al-Razi in the 10th century, with his book *Al-Hawi*, to Ibn Sina, with his book *Al-Kanun*, to Ibn Al-Haitham, and more. Their publications and writings in Arabic laid the foundation for modern-day medicine and dentistry.¹

It is acknowledged that modern-day, university-level dental education began in the US, when the Baltimore College of Dental Surgery opened in 1840, while Harvard University Dental School, founded in 1867, was the first university-affiliated school.² Arab countries identified the importance of university dental education early; the first dental school opened as the Faculty of Oral and Dental Medicine at Cairo University in 1925,³ although prior to that the Faculty of Medicine at the University of Damascus, via the Dentistry Department, accepted the first group of dental students in 1921.⁴ The number of new dental schools throughout the later decades until the early 1990s increased steadily and they were mainly public institutions. Subsequently, more dental schools emerged in different countries until the beginning of the 21st century, when private dental schooling became the main contributor to the emergence of new schools. This led to large variations in the number of schools between Arab countries, which was often unexplained by local needs for healthcare provision. For example, Jordan – with a population of nine and a half million people⁵ – has two public schools, whereas Lebanon and Libya – with nearly 6 million people each^{6,7} – have three and nine schools respectively. Egypt has 34 schools, the Kingdom of Saudi Arabia (KSA) 27, Iraq 28, Syria 14 and the United Arab Emirates 5, whereas Oman and Kuwait have one dental school each, and Qatar and Bahrain have none.

Admission to dental schools

Admission follows the completion of the senior year in high school, and most countries have adopted academic achievement as the sole criterion for admission; specifically, the results of national general secondary examinations. Some schools require additional tests and interviews, and a few rely on academic achievement in the first year of college (foundation year) for students seeking to study in one of the healthcare schools. Most dental students study for five years, whereas the length of the course is six years in KSA and Kuwait. English is the official teaching language in most countries, except in Syria, where it is Arabic, and in Arab Maghreb (north-west African) countries and one school in Lebanon, where the official language is French.

Curriculum, faculty recruitment and facilities

Dentistry in most Arab countries is taught in dental schools aligned with academic health centres or hospitals, at parent universities. Traditionally, the first three years of study include biological sciences, basic medical and dental sciences and the pre-clinical preparatory course. The clinical courses usually take place in the following years. Some schools introduce a few clinical courses in Year 3; a few even earlier. The curriculum design, content, methods of instruction and assessment vary between countries, even between different schools in the same country. Schools with contemporary teaching methods have curricula based on a set of intended learning outcomes and competencies. Some schools introduced the concept of integrated oral care, bringing to students the basics of scientific research, statistics and evidence-based practice.

The most widely used method of instruction is best described as a hybrid approach between didactic lectures, small group discussions, case-based teaching and learning and, on occasion, self-directed learning. English language, information and communication technology teaching are integral to most curricula. Yet it is generally accepted that community-based programmes and inter-professional education are lacking in undergraduate education in most Arab schools, and integrating basic and clinical subjects has been difficult owing to



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Figure 1 Lecture room at the University of Jordan School of Dentistry, Amman, Jordan



Figure 2 Preclinical laboratory in the Faculty of Dental Medicine, Saint Joseph University, Beirut, Lebanon



Figure 3 Operating theatre in King Saud Dental Hospital, at King Saud University, Riyadh, the Kingdom of Saudi Arabia

the large student numbers, especially in public schools. As for assessment tools, a wide variety of methods have been adopted, including single best answer, short essay questions; case presentations, formative and summative assessments of clinical competencies, an observed structured clinical examination, and oral exams.

Regarding faculty recruitment, the national policy of some countries to sponsor top graduates to Western colleges to pursue postgraduate academic and professional degrees has been the main reason for the presence of well-trained, full-time teachers. This is currently the case with Gulf Cooperation Council (GCC) states and has been with countries such as Jordan, Lebanon, Egypt, Sudan and Libya. One of the significant differences between countries are the facilities: wealthy states of the GCC have up-to-date buildings, contemporary equipment and complete dental clinic management systems; a few even have virtual-reality computer-assisted simulation systems. Schools in other countries often have significant variations in their teaching facilities.

Accreditation

The requirements to establish dental schools is variable. However, strict requirements are placed by the government in a country like Jordan through the Higher Education Accreditation Commission (HEAC), which – via accrediting both the university and its dental programme – sets standard for all aspects governing the establishment of a dental school. This accrediting body conducts periodic assessments and has the authority to stop a university dental programme if the standards of accreditation are not maintained. Although, in some countries schools have a framework for quality assurance consisting of internal self-evaluation and continuous improvement, and external evaluations through accrediting and quality assurance bodies, these systems may be lacking in other countries. In Jordan – in addition to the mandatory accreditation of the dental programme by the HEAC, which ensures the existence of the necessary basic requirements for starting a dental programme – schools are obliged by the desire for excellence to obtain additional, optional quality assurance certificates that guarantee that the criteria and standards of high-quality education have been met. In an attempt to coordinate dental education between Arab dental schools, and advocate contemporary dental education and research, the Society of Arab Dental Faculties (SARDF) was founded in 1997 as a non-profit affiliate organisation to the Association of Arab Universities. Whereas all schools in the US are members of the American Dental Education Association, this is not the case for the SARDF.

A few dental schools in the KSA, Jordan, Lebanon, Kuwait and Oman, in their endeavour for international reputation and to align their curricula in terms of structures, programmes and actual teaching with international standards, have sought recognition from the Association for Dental Education in Europe (ADEE). Recently, an increasing number of universities in the Arab world have become more interested in global

ranking systems for specialty programmes such as dentistry, as it influences their competition for regional and international students.

Licensure

For a graduate of a dental school to practise, most local regulations mandate a one-year internship training in a recognised centre. Following that, a licence to practise dentistry is issued by the local authority either automatically or following the successful passing of an assessment. For example, all graduates in the KSA have to pass a general dental examination organised by the Saudi Commission for Health Specialties to obtain their licence, whereas nationals in Jordan and Lebanon who are graduates from local public schools are exempted from the national dental examination. Unlike in the European Union, Arab countries do not have a directive to automatically recognise professional qualifications between countries, except for countries of the GCC. Therefore, a dentist seeking a post in another country has to go through an assessment process to obtain the licence and, occasionally, an additional period of training may be required.

Final words

Dental education in Arab countries faces significant challenges. Although funding in health education is a global challenge, dental schools in Arab countries rely on complete state funding that is variable both between countries and sometimes within the same country, thus posing serious challenges in recent times of austerity. This undermines implementing strategic plans in the face of a continuously increasing demand to accept more students and publicly funded schools offering a subsidised fee – sometimes even free education – for nationals. On the other hand, most private schools are for-profit businesses; hence, spending is determined by profit, which often has a negative impact on faculty recruitment, compromises admission criteria and results in poor investment in infrastructure.

The rise in the number of schools in recent years has been in response to increasing demand from the public on dentistry as a profession, and not on the oral health needs of their local communities. In addition, the significant increase in the number of private schools, especially in the GCC states, and the inability of faculty salaries to keep pace with those of private practitioners, has led to problems with retaining faculty in some public schools.

Despite the above challenges – and in light of the widespread use of information and communication technology among educators worldwide, the presence of well-qualified Arab academics locally and in internationally renowned institutes, the appreciation of accreditation and quality assurance in dental education and with students in most dental schools being the *crème de la crème* in their countries – it is not surprising that reputable schools that have been working on upgrading their standards, investing in their faculties and seeking international recognition will continue to

progress towards the required standards in curriculum structure, while serving local needs and producing relevant research.

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