Ophthalmology in the Middle East: Reflections from two electives in Jordan and the UAE

BY SARAH SULEYMAN OMRAN AND ANDRE ISMAIL

In the summer of 2021, I was fortunate enough to embark on two electives in ophthalmology at the Shami Eye Centre in Amman, Jordan, and Moorfields Eye Hospital in Dubai, United Arab Emirates (UAE). These eye hospitals serve distinct populations, with the Ammani populace being predominantly ethnic Arabs, whilst Dubai's expat community of largely South Asians and Europeans contribute to the corpus of its citizens.

At the Shami Eye Centre, my Arabic skills were put to the test as all consultations took place in Arabic. Dialects within the Arab world differ greatly from region to region, so it was also particularly challenging trying to accommodate these changes. Contrarily, all teaching activities took place in English at Moorfields Eye Hospital in Dubai.

Clinical presentations at Shami Eye Centre

The Ammani population has an unusually high incidence of keratoconus. Globally, incidents of keratoconus vary from study to study, but have been noted to occur in one in every 2000 people [1]. A study conducted in Jordan found that locally the incidence is closer to 1.38 for every 1000 people [2]. This is thought to be due to several factors, detailed below.

Firstly, environmental factors such as the dry, hot, and sunny climate contribute to a higher incidence of dry eyes, a known risk factor for keratoconus, due to methods of alleviation like frequent eye rubbing, which thins the cornea. Additionally, a genetic preponderance amongst the native Jordanian population that predisposes them to developing keratoconus is recognised. A recent study linked this to higher rates of consanguinity, reflected in increased incidence rates of keratoconus in other regions with a preponderance for consanguineous relationships such as India and Iran [3].

Another recent retrospective study looked at 234 patients with keratoconus in Northern Jordan and identified allergic conjunctivitis as the most common past ocular condition in its patient population, which can contribute to keratoconus using similar pathophysiology to dry eye syndrome [4]. Whilst most eye pathology I observed was reflective in incidence to that of the UK, I was given the opportunity by one of my clinicians to accompany him to carry out a pro-bono case at a local hospital where an eight-year-old boy had bilateral congenital cataracts removed. It is much rarer for cataracts to be left unoperated by this age in the UK due to the risk of amblyopia [5].

Healthcare models

Electives are an important means to investigate other healthcare models. Unlike the NHS found in the UK, Jordan does not have an elaborate, centralised and publicly funded healthcare system. Whilst citizens can attend government hospitals, where fees are subsidised, the private sector deals with much of the disease burden with many providers offering a range of services. These can be paid for by insurance companies or by the patient for one-off services. Insurance can be obtained through one's occupation or paid for independently. Due to the lack of a nationalised database of care records, the patients in Amman had their ocular records from previous visits to both the local optometrist and ophthalmologist in hand, but not accessible by their GP or family doctor. This meant that every consultation required some line of questioning as to the patient's medical and ocular history, particularly with regards to diabetes care and blood pressure control, as well as previous eye operations and procedures from other private providers. As a result, the patient is a much more active participant in their care – for example, in requiring knowledge of their HbA1c readings or average blood sugar readings. In discussions with ophthalmologists in the department, it was also made clear that this system made it difficult to conduct academic research into ocular pathologies due to the fragmentation of data, and increased risk of attrition by patients.

However, this system generates a very different turnaround time, with a patient being seen for the first time, having their images taken and their eyes examined with the necessary surgery, all within an hour. This is also in part because the patient demand per doctor differs greatly from centre to centre. This is a world away from the NHS, where increasingly long waiting lists are the headline for many major newspapers.

Furthermore, whilst each clinician at the centre had their distinct subspecialty, it was not uncommon for any of them to see general ocular pathologies. This meant that they were all much more proficient and well versed on a wider variety of conditions. The distribution of patients over a range of providers also meant that there were no specific 'tertiary centres' like Moorfields to which complex conditions would otherwise be referred. As a result, I felt I gained much experience across the whole breadth of ophthalmology – from the everyday complaints of a chalazion, to the very rare patient with ocular albinism despite primarily being attached to the retinal department. The private provider system also means that patients can more readily be seen by specialists, as opposed to the NHS where patients must first go through their primary care provider, be that the optometrist or their GP, before onward referral. This is useful in that if a time-critical pathology is present (e.g. retinal detachment) it can more readily be picked up and appropriately operated on. On the other hand, this redistributes the patient load onto specialists who may not necessarily need to see these patients.

Coming from a city as diverse as London, I was pleasantly surprised with how equally varied the patient population was at Moorfields Eye Hospital in Dubai. The city truly felt like the melting pot of the Middle East. As someone who is trilingual, I found myself drawing on my languages to appropriately communicate with all patients. Despite Arabic being the national language, the sheer volume of expats from across the world was evident in day-to-day practice. Moorfields is a private hospital, and an established name in the western world, which is likely to have contributed to the difference in the patient population seen. I was based in the glaucoma department at

the hospital. Much like in Jordan, the private healthcare nature of the hospital meant that the doctors I shadowed saw a wider variety of ocular pathologies beyond their subspecialty. As the modus operandum here is private care, each clinician must see cases beyond their subspecialty for the hospital to remain financially profitable.

Service delivery like this also alters the patient-doctor relationship. Private care as a mainstay has rallied multiple competitors within a relatively small geographic region. Many practitioners are global names, and the lifestyle offered, coupled with the financial incentives provided makes for an attractive package. As a result, the market can appear saturated, and personal branding and softer skills like patient manner are critical for local success. Learning how to manage patient expectations is also a more vital skill here than might not be given notice elsewhere. Consequently, surgeons here may be more cautious in choosing to operate, as the gravidas of a poor patient outcome, if accompanied by poor management of patient expectations can have disastrous effects on one's reputation.

It's also important to consider how the privatised system impacts management of complex patients who require multi-specialty input. This is often more difficult to coordinate due to the presence of several smaller private centres. Practitioners here are required to create their own networks of reputable contacts to whom they can recommend patients for further input. It is also not uncommon for patients to 'shop' for second or third opinions from multiple doctors from within the same specialty.

With regards to the clinical cases seen, dry eyes appeared by far to be the most common ocular manifestation present amongst all patients. The dry hot desert climate of Dubai, coupled with the constant requirement for air conditioning when indoors is a significant risk factor for this. Furthermore, blepharitis was also a common presentation, also induced by the environment.

Having had placements at both Moorfields London and Dubai, it was interesting to see how a hospital's culture can translate globally despite different employees and cultural contexts. The London branch is of course significantly busier, but many patients in Dubai mentioned having had previous surgeries done in the UK and some referenced looking for patient advice from the London branch website, and wider NHS resources. There was a strong sense of patient education present amongst clinicians, with the Moorfields Dubai team often hosting informative talks and Q&A style sessions with the health care providers (HCPs). This meant that the hospital's marketing team had a lot more significant a role to play in the financial success of the hospital, compared to the UK, where they are more often associated with managing negative public relations.

Ever keen to score points for the portfolio, I asked my supervisor for a research project whilst on the placement. This region of the Middle East is not yet known for a significant research output. However, due to many of the doctors at Moorfields Dubai being expats themselves, there was an innate drive amongst clinicians to make use of their research backgrounds in this geographic region and this appeared to be a growing field in the area.

It was also made apparent to me that a secondary language was a significant bonus to a practitioner looking to move to the region. In another glaucoma clinic, I found that Urdu-speaking patients often preferred to converse in their native tongue, and some patients would specifically request certain doctors for their language skills. The NHS is a very multicultural system, so it is not unfamiliar to me to see doctors communicate in other languages to ease patient consultations, but the scale at which this took place in Dubai seemed far more pronounced to me.

In conclusion, my four-week elective at Shami Eye and Moorfields Dubai was an eye-opening experience (pun intended) and I very much enjoyed the hands-on experience with my supervising clinicians teaching me how to use a slit-lamp and what signs to look out for with each patient. The breadth of pathologies seen, as well as the range of experiences obtained, all made for a very informative placement and I would recommend similar experiences to medical students in the future.

References

1. How many people have keratoconus? (2018). *National Keratoconus Foundation* (NKCF). https://nkcf.org/how-many-have-kc/ [Link last accessed January 2024].
2. Hashemi H, Heydarian S, Hooshmand E, et al. The prevalence and risk factors for keratoconus: a systematic review and meta-analysis. *Cornea* 2020;**39(2)**:263–70.
3. Froukh T, Hawwari A, Al Zubi K. Whole exome sequencing highlights variants in association with keratoconus in Jordanian families. *BMC Med Gen* 2020;**21(1)**:177.
4. Alqudah N, Jammal H, Khader Y, et al. Characteristics of Keratoconus Patients in Jordan: Hospital-Based Population. *Clin Ophthalmol* 2021;**15**:881–7.
5. Lagrèze WA. Treatment of congenital and early childhood cataract. *Ophthalmologe* 2021;**118(Suppl 2)**:135–44.

AUTHORS

Sarah Suleyman Omran,

Junior Doctor, West Hertfordshire Hospitals NHS Trust, UK.

Andre Ismail,

Ophthalmology Consultant, West Hertfordshire Hospitals NHS Trust, UK.

SECTION EDITOR

Abdus Samad Ansari,

Post-CCT Glaucoma Fellow, Moorfield's Eye Hospital NHS Foundation Trust, UK

samad.ansari@nhs.net

Declaration of competing interests:
None declared.