IACLE
International Association of Contact Lens Educators

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From football to eyeball: a unique initiative in Bihar

IACLE President Dr Shehzad Naroo paid a visit to a unique educational institution in the Indian state of Bihar and took along his football kit! Here he presents his personal recollections of a visit that was to prove life-changing, in more ways than one

As many friends and colleagues know I have an interest in the way optometry and primary eye care is practiced and taught around the world. I visited a couple of eye hospitals and eye training institutions in Pakistan in 2003 (such as the Al-Shifa Eye Trust in Rawalpindi) and started working with them to help improve their training. At Al-Shifa I was involved in moving the training from a two-year diploma to becoming a three- and now a four-year Bachelor's program.

It was largely my interest in seeing primary eye develop globally that got me more involved with IACLE. Over the years I have had the opportunity to visit many countries where optometry and primary eye care is still developing. I have had the opportunity to speak at optometry conferences in many countries, including Argentina, Barbados, China, Colombia, Croatia, Czech Republic, France, Greece, India, Italy, Jordan, Lebanon, Pakistan, Palestine, Philippines, Poland, Portugal, Russia, Saudi Arabia, Serbia, South Korea and Spain.

One of my passions is to talk about the need for primary eye care and how 'one size does not fit all'. Each country should assess its own needs and then implement training programs that cater for that need, bearing in mind career progression and development for individual practitioners, while not overlooking the primary aim of service delivery to patient. My work with international optometry development led to an Aston University Excellence Award in 2012 and a World Council of Optometry International Optometrist Award in 2015.

Chance meeting

About a year ago I was in my university conference building and the Pro-Vost and Deputy Vice-Chancellor, **Professor Helen Higson**, stopped me to tell me about the Akhand Jyoti Eye Hospital (AJEH). She put me in touch with **Ravi Kant**, a very active philanthropist, retired former managing director of Tata Motors and alumni and honorary graduand of Aston University. He, in turn, connected me with **Mritunjay Tiwary** from Bihar in India. I exchanged emails with Mritunjay and not long after that he was visiting the UK for a fundraising event and he came to meet me.

Mritunjay explained his business background in Calcutta and how he gave that up to return to his home state of Bihar because he wanted to set up a program that helped the local community. He started by delivering free medicines but a chance meeting an elderly man, blinded by cataract, and his granddaughter gave Mritunjay his idea for his future plans.

What he realised was that there was a large incidence of poor vision in Bihar and much of it was caused by cataract, which could be treated by relatively straightforward surgery. Secondly that blindness of one member of the family affected the whole family because often someone was taken away from other duties to care for the blind person. Finally, he saw how education for girls was not considered as important as educating boys.

In December 2005, the Akhand Jyoti Eye Hospital (AJEH) started with the aim to combat curable blindness in Bihar. A dedicated team worked day in and day out to restore sight to over 10,000 people in the very first year and now AJEH is the largest eye hospital in Eastern India performing more than 65,000 surgeries annually.

IACLE involvement

My personal journey to AJEH started when the World Council of Optometry planned to host its Second World Congress of Optometry, in Hyderabad in India. I had been to Hyderabad in the past, the last visit being in 2006 for an IACLE regional training event. In fact it was that event which lead to me becoming more involved with IACLE. **Professor Des Fonn** stepped down as Vice President and the President, **Professor Debbie Sweeney**, asked me to stand for election to that role. In 2007 I became Vice President and when Debbie stepped down I became President in 2011.

Since IACLE had such a great meeting in 2006 in Hyderabad at the fantastic LV Prasad Eye Institute, it was decided to hold another Educator Meeting – the IACLE Congress on Contact Lens Education – there this year, immediately prior to the World Council of Optometry congress. I took the opportunity of travelling to India and decided to go out a few days early and go to Bihar and see AJEH for myself.

When I landed in Patna, the capital of Bihar, I was amazed at the airport. It seemed so dated, so chaotic, so poorly lit, with handwritten signs – I felt like I had stepped back in time to an India from many decades ago. The contrast between this airport and where I was a few hours earlier at Delhi airport could not have been greater. I was met by **Arvind Singh**, who works at AJEH in an administrative capacity, but also to support students by teaching English classes.

'Middle of nowhere'

On the way to Masstichak, the village where AJEH is located, it was notable how the busy city streets of Patna soon turned into dusty village roads. Arvind explained how at AJEH they were proud of the fact that the hospital was in the middle of nowhere. At this point we turned off the dusty village road and drove another mile or so on a muddy path. I had arrived at the hospital.

It was surrounded by village huts, some made of brick, others made of a corrugated metal sheets and others were a combination of thatching and mudbricks. There were no local shops, no hotels, no bus stops, in fact no anything. This really was the middle of nowhere! There were three or four shacks that were selling snacks and tea outside the hospital gates; these had sprung up to serve patients and their families attending AJEH.

Inside the gates I was greeted by a large group of, mainly female, students and optometrists with a traditional greeting ceremony that included me being adorned with a Tilaka (a vermillion mark on the forehead used as sign of welcome and an expression of honour to a guest) and a Kalava (red cotton thread) tied to my right wrist. I was then invited to attend a brief stage show that the students had arranged since the day of my arrival coincided with National Teacher's Day in India (5 September).

The stage show featured singing and dancing by the optometry students. One mime by younger students depicted the importance of education for females by telling village families that girls should not be ignored. The evening was rounded off by a cake cutting ceremony by some of the teachers to celebrate National Teacher's Day.

Conveyor-belt cataract surgery

The next day I took a tour of the hospital and training facility. The day before some of the hospital staff had been on a screening camp to some nearby villages. Anyone who required cataract surgery was bussed back to AJEH the previous day and they spent the night at the hospital. The hospital typically provides free accommodation and meals for two days to patients from screening camps who require surgery. For screening camps the cataract surgery provided was small incision cataract surgery (SICS) rather than phacoemulsification. Phacoemulsification was offered to fee-paying patients but most of the patients were not fee paying. Patients could even upgrade from their standard single-vision intraocular lens to a better brand, or even multifocal intraocular lenses.

I would estimate that there were around 300 patients having cataract surgery that day and there were only four surgeons, so each surgeon would be performing over 70 procedures. The main surgeons (**Dr Ajit Poddar** and **Dr Tanwir Khan**) told me that they each had on occasion performed over 100 surgeries in one day!

This was real conveyor-belt stuff, where the patients consented and were prepped and then waited outside the operating theatre. Inside there was one surgeon and two operating beds with a patient on each, plus two additional patients seated and waiting, one by each bed. The surgeon would perform surgery on one patient and then change his gloves and swing the operating microscope over the second patient.

The support staff, who included optometrists, replaced the surgical instruments, while the support staff at the first bed would take the operated patients away and settle the next patient on the bed. It was a slick process but I did worry about cross contamination, although the staff said that they did not have cases of that.

Meanwhile, downstairs the outpatients' area was a hub of activity and staff were busily refracting, doing postoperative checks, some low vision work, glaucoma screening, pediatrics and dispensing. The younger optometry students were involved and the older students were either supervising or seeing more complex patients.

One of the final-year students told me she must have refracted over 4,000 patients in the three years she had worked there. The lead staff in the outpatients were the qualified optometrists, and they managed the whole area. It was a hive of activity and I was told that they would see around 500 outpatients per day. The hospital worked a half day on Saturday and was closed on Sundays but still would see emergencies as required.

The hospital had their own sterilising units, they prepared their own theatre gowns and I even saw someone handwashing the theatre uniforms on an open-air roof terrace. Optometry students were involved in the sterilising areas too. I was surprised to learn that the hospital only received mains electricity a few years earlier and previously had relied on its own generators, which were still used as a back-up supply.

Meeting the students
I gave two lectures to the students that day and then visited the local village and the local temple. The temple has a very significant link to AJEH. The priest there, **Pandit Ramesh Chandra Shukla** was a devotee of **Pandit Shriram Sharma Acharya** and it was the latter who had taught that, in the future, educating for females would be of paramount importance if society was to move forwards.

Mritunjay and many other employees at the hospital adhered to these teachings too, although it should be noted the hospital was very inclusive, most of the senior staff were not devotees and senior staff were not only Hindus or even higher castes only. Similarly, patients were reflective of the local population, where around 20% are Muslim. The local temple had been instrumental in the history of AJEH and when the idea was first floated, and before the current premises were built, makeshift outpatient clinics and operating theatres were put up in the rooms of the temple.

I recognised one of the students who was showing me around the village, she was one of the twin sisters that I had seen in a video that Mritunjay showed me the previous year (see below). The sisters have a very tragic backstory and it was great to see her so full of life and energy and acting like any teenager would in most parts of the world – she was preoccupied with taking selfies and joking with her friend. I met her twin sister that day too, and she shared the same cheerfulness as her sister. On the way back to the hospital we passed by the training pitch to see the older student girls playing football.

Making a difference
That evening at dinner I learnt more about the hospital ethos. The hospital was undoubtedly making a difference in alleviating visual problems in the region and aimed to make Bihar a blind-free state by 2020. The hospital planned to increase its service provision by opening more sites and having more staff, but also by offering other types of procedure such as corneal surgery.

The second mission of course was to train optometrists, but these were more than regular optometrists because they were providing an important backbone to the hospital by undertaking various clinical and non-clinical roles. They were learning while on the job, but being supervised as was felt appropriate. The hospital did not engage in contact lens work, although the students had asked me to deliver two lectures on contact lenses because the training syllabus included contact lens modules.

There were two syllabi they followed: one was the Foundation of Ophthalmic and Optometry Research Education Centre (FOOREC) developed by the All India Institute of Medical Science (AIIMS) in Delhi; and the other was the Bachelor of Optometry and Ophthalmic Technology (BOOT) offered by the National Institute of Medical Sciences & Research (NIMS) in Jaipur.

Empowering females
The third mission of AJEH, and arguably the most important, was to implement social change by empowering females. This made it unique because Bihar was such a poor state. The 200 poorest villages of India were in Bihar and neighbouring Uttar Pradesh. These were the locations of all five sites of AJEH.

Since poverty was such an issue in the region, it was not uncommon to see children working the farms alongside their parents. Often education was ignored and where education was invested in for the next generation it was common for it to be offered by families to their male children only. Girls were occasionally seen as a burden by some families because they would require a dowry so they could be married off. Some families would consider girls as temporary residents because their real home was that of their future spouses. Shockingly, Bihar still suffered with cases of female infanticide and I had met people who had first-hand experience of this.

Part of Mritunjay's vision to empower females was the need to give them more confidence and give them the tools for success such as teamwork. With this in mind, when he started AJEH, he offered free high-school education to 14-18 year olds in the local area. AJEH would pay for their accommodation, sustenance and their education at the local schools. If they wanted to continue in education then at the age of 18 they could enrol on the optometry training programs, and after that he would offer them a job.

I spoke to the girls at each level of this progression and they all loved AJEH; many would say that AJEH was their family and they never wanted to leave this place! To help build confidence in the younger girls they would all play football every day. Some of the girls have left and gone on to pay for the Bihar state team or even the Indian national team.

The next day I was to engage in this myself! I was told to be ready by 6am and I would be taken to the pitch, on the way to the pitch I noticed that it was not long since sunrise and the villagers were waking up too. I saw many of them walking away from their homes carrying their water jugs, and into various fields or behind trees and walls. Apparently this was a common sight at this time of day and was the morning ritual of open defaecation. Mostly it was men, apparently female villagers waited until the cover of nightfall to go for their own ritual. Most of the homes did not have plumbing or toilets so this was a common thing across villages in rural India.

The Indian government have had campaigns to advise people not to do this, and even offered grants to build toilets or provided public toilets. People I spoke to about this sensitive issue told me that the money was often used elsewhere by locals, or public toilets had not been repaired or that people did not want to use them because they did not want to be in the confined space.

Challenging prejudice

Back to the football, at the village centre there was a large field where I found the girls split into two teams, the 14 to 16-year-old were with one coach and the 16 to 18-year-olds with the senior coach (who was a former professional football coach). They were being put through their warm-up exercises and I was invited to join in.

I noticed that there were small groups of men watching the girls play. Partly this may have been curiosity, but this was not an unusual sight for the village as the girls from AJEH had been playing football here for many years, so I figured that there were two reasons the men were watching: one was for their own perverse pleasure, and the other was out of protest.

The latter came to light when one village man said something to one of the girls, she turned to him ready to confront him but the senior coach told her to get back to the practise. It was interesting to see this girl react the way she did; this was not normal behaviour from a village girl and she certainly had developed a fiery and confident attitude, which she probably would not have had without the support of AJEH. The indignant male villager then continued to show his protest to the girls playing football by walking across the playing field during the practise. Everyone ignored him as he was inviting confrontation and wanted to make a scene but the girls denied him that by their indifference to him.

Mritunjay later explained that many people in the region were not happy with what was being done at AJEH. While there was no objection to the eye care services, the fact that females were being empowered went against the grain for some locals. Mritunjay has even had death threats made to him and when they built the hospital he had to talk to local gangs to ensure they did not endanger the work. The support from the local temple was useful in these matters.

After an hour of warming up the girls were ready for a game of football, the younger girls taking on the senior girls. They picked their teams and I was chosen to play in the senior team. The coach told the girls they should take it easy on me, not make me run too much and pass the ball to my feet. All this they systematically ignored! The rules here were if you wanted to play then you had better play properly. The girls took the game very seriously and there was no difference in their passion to that of a group of similarly aged boys. Later they told me that they often played against local boys' schools and usually won.

Practical support

After the game and some warm-down exercises we headed back to the hospital to get ready for the day's work. Patients were already starting to gather and soon everyone was at their station. My own day at the hospital started with some practical slit-lamp training, observing more of the outpatient clinics and a couple more lectures.

At the end of the day I met with the senior staff and we discussed how we would work together in the future. It seems there were three areas of service at the hospital. One was the clinical side where I would not be able to assist directly but when new services are identified (such as the proposed corneal service) then I can help organise the relevant training. A second area was the teaching and it seemed there were some gaps here that could be filled by delivering direct teaching or virtual lectures, or by linking AJEH with national organisations that could help (such as the Optometry Council of India). Finally there was a potential research opportunity, especially with the numbers of patients being seen at AJEH and publication of some papers would help bring awareness of AJEH to a wider ophthalmic community.

The next morning as I was leaving two of the senior optometrists told me how I had inspired them to realise that optometry was more than being a surgeon's assistant; they could be practitioners in their own right and help patients as well as training fellow junior colleagues. It is a cliché but one optometrist told me how I had changed her life, although the truth is AJEH had changed mine!

- **Watch these videos to find out more about AJEH and its work**

This is the link to the video with subtitles where people speak Hindi
https://www.youtube.com/watch?v=m_fVcZP3AdU

This is an alternative video, but no subtitles
https://www.youtube.com/watch?v=VVxpFjIghfk