

## Postgraduate ophthalmic education in India: Are we on the right track?

The preamble of the curriculum for education of an ophthalmic specialist by the International Council of Ophthalmology identifies its objectives as “designed to provide a structured program of learning that facilitates the acquisition of knowledge, understanding, skills and attitudes to a level appropriate for ophthalmic specialists who have been fully prepared to begin their career as independent consultants in ophthalmology.”<sup>1</sup> Are these objectives being met? In a 2007 survey of 269 US ophthalmologists who have been in practice for  $\leq$  five years, 86% said they were extremely or very well prepared to practise comprehensive ophthalmology after residency training.<sup>2</sup> What about India? I do not know of any such survey carried out in India. However, from my interaction with postgraduates all over the country and experience as an examiner for Master of Science (MS), Fellow of the Royal College of Surgeons (FRCS) and the Diplomate of the National Board of Examination (DNB), I suspect the figure would not exceed 20%.

It is not that we lack excellent training programs. Some of our tertiary ophthalmic institutions have developed and adopted a good training module. However, these models have not been replicated elsewhere in the country due to the absence of a credible monitoring mechanism and a uniform exit examination. As a result, the standards of education in India vary from sublime to ridiculous.

This fact has been known to us for a long time. The article by Thomas *et al.*<sup>3</sup> in this issue of the Indian Journal of Ophthalmology (IJO) brings this out in the most forceful way and also looks at the possible correctives. Today, we need to identify what ails the residency programs in the country and develop the will to fight the obstacles that hinder their development to the fullest potential.

Let us first look at the available facts about the state of ophthalmic postgraduate education in India. The Academic and Research Committee (ARC) of the All India Ophthalmological Society (AIOS) carried out a survey in 2000 (presented during the AIOS annual conference in 2001) while I was the chairman. A questionnaire was sent to the heads of the departments of ophthalmology of all medical colleges in the country and followed up with two reminders. A response was obtained from 61 medical colleges (government 44, private 15, autonomous two), out of which 59 provided complete information, which could be analyzed. The mean intake of postgraduates in the colleges was 3.0 per year (range 0 to 17) for Doctor of Medicine (MD) or MS degree courses and 2.7 per year (range 0 to 15) for the diploma courses. The departments had a mean bed strength of 55.9 (range 10 to 250)

The survey brought out some glaring deficiencies in manpower, infrastructure, clinical training, surgical training and academic programs. The mean strength of the faculty was 4.8 (range 2 to 23) and of senior residents was 2.3 (range 1 to 12), which was considered grossly inadequate due to the wide range of activities assigned to them. Many of them were unable to devote adequate time to work in the department due to involvement in eye camps (17 on an average/year) or in private practice. Posting of trained ophthalmic manpower for nonophthalmic duties was often a major constraint.

The infrastructure was deficient with poor availability of ophthalmic equipment and teaching facilities. The deficiencies in ophthalmic equipment pertained to diagnostic (absence of applanation tonometer 17/59, noncontact tonometer 52/59, autorefractometer 33/59, A-scan biometer 5/59, B-Scan ultrasonography 42/59, pachymeter 43/59, automated perimeter 41/59), therapeutic (absence of argon laser or equivalent 41/59 and YAG laser 28/59) and surgical equipment (absence of phacoemulsification machine 43/59, vitrectomy machine 11/59 and endolaser 50/59). Even where equipment was available, constraints on its use by residents and junior faculty was often a hindrance to the process of learning. There was a shortage of teaching facilities with insufficient teaching halls, library facilities, audiovisual equipment, computers and internet facility in most medical colleges.

There was a deficiency of subspecialty and supportive services in the colleges. There was no retina service (28/59), cornea service (25/59), pediatric ophthalmology service (46/59), oculoplastics service (46/59), neuro-ophthalmology service (48/59), ophthalmic pathology and microbiology (52/59), low vision aid service (54/59) and rehabilitation and epidemiology service (55/59).

Clinical, surgical training and academic programs were thus hampered by the shortage of equipment, poor development of subspecialty services and lack of time with the faculty for various reasons listed above even though enough lectures, seminars and journal clubs were often being held in most colleges.

The observations were corroborated by Murthy *et al.*<sup>4</sup> They carried out a survey between April 2002 and March 2003 and received a response from 105 postgraduate medical colleges and 23 training institutions accredited for DNB training. They reported that 20% of all medical colleges had no ophthalmology journals and 60% had  $\leq$  two international journals. Ninety six percent of colleges had no subspecialty fellowship programs. Only 7.6% had more than five international publications in three years. The findings about poor infrastructure, poor library facilities, poor exposure to surgeries other than cataract and the absence of subspecialty programs were confirmed. Lack of motivation and inadequate input of effort seemed to be a bugbear.

The lack of infrastructure in state-funded medical colleges may be due to shortage of funds, poor maintenance of equipment due to bureaucratic delays or inadequate motivation associated with poor training of teachers. Absence of adequate monetary

compensation and simultaneous private practice are among the reasons for poor motivation of the faculty. Limited hours spent by the faculty at some of the medical colleges is also a constraint.

So what is to be done to overcome the problem and restore the cradles of our ophthalmic human resources to health? These measures would involve manpower, infrastructure, curriculum and training methods.

The faculty in medical colleges needs improved working conditions, better training, and in places, an increase in numbers. Training in subspecialties is a prime requisite. This could be undertaken by developing a well co-ordinated program by the Government of India in collaboration with state governments to send teachers to institutions of excellence for specific periods. Faculty from outside could also be deputed for short periods of about a week to the desirous medical colleges to help start the specialty services. The AIOS and the national subspecialty societies could be roped in to help provide this service.

The success of a program like this would require augmentation of the infrastructure to overcome the deficiencies pointed out above. This would entail adding to the available equipment and improving its maintenance. Libraries, lecture theaters, audiovisual and internet facilities would require to be strengthened and a greater support for research would be imperative. This will again need to be done under a project conceptualized by the ministry of health of the central government. The efforts could be augmented by provision of better teaching material to the colleges such as slide script programs, surgical teaching videos, models and specimens and provision of online journals. The AIOS should play a major role in this in line with the work being done by the American Academy of Ophthalmology. The start of Continuing medical education (CME) series by the ARC of AIOS was a good step in this direction. An effort in preparing slide script programs was also initiated by the ARC in 2001.

At the same time, it would be essential to update and refine the present curriculum and system of evaluation including the provision of a countrywide uniform exit examination. A training program which entails rotation to all subspecialties, integrated teaching with other departments of relevance such as neurology, pathology and radio diagnosis, problem-based teaching, guest lectures by an outside faculty, frequent internal assessment examination including a basic science examination at the end of the first year of training and a well-designed exit examination is needed. Surgical training by senior surgeons scrubbed up and assisting through the observer microscope must be ensured. Research methodology and management training should be integral components of the curriculum. The criteria for accreditation of postgraduate programs need to be restructured. However, the keys to success would be strict enforcement and monitoring. Unless some mechanism exists for uniform enforcement at the national level, all these efforts are doomed to failure. To ensure better monitoring, a way will have to be found to strengthen the functioning of the Medical Council of India (MCI). Alternatively, the National Board of Examination (NBE) could be assigned the responsibility for monitoring of postgraduate (PG) education. They could develop panels of eminent specialists from each specialty to oversee PG education in their specialty and ensure strict compliance with the curriculum, failing which decertification may be resorted to.

It is time to wake up before it is too late and to come up with a national level effort to improve ophthalmic education in the country by a co-ordinated action, in line with a program like "The National Program for Control of Blindness". This could be the 'Indian Program for Strengthening Ophthalmic Education' (IPSOE), which may be funded by assistance from the World Health Organization (WHO), World Bank or other agencies. This will require coordination of several organizations including the Ministry of Health especially the ophthalmic cell of the Directorate General of Health services, the MCI, the NBE, the AIOS, the national subspecialty societies, the ministries of health and education of the state governments and several nongovernment organizations (NGOs) and institutions of excellence. It will not be easy but it can and must be done if we are to rescue the future of ophthalmology and ophthalmic services in the country.

The question is .....do we have the necessary will?

**A. K. Grover, MD, FRCS**

*Department of Ophthalmology, Sir Ganga Ram Hospital and Vision Eye Centre,  
12/27, West Patel Nagar, New Delhi - 110 008, India. E-mail: akgrover55@yahoo.com*

## References

1. Goldberg MF, Lee Andrew G, Tso, Mark OM. Principles and guidelines of a curriculum for education of the ophthalmic specialist. *Klin Monatsbl Augenheilkd* 2006;223:53-48.
2. McDonnell PJ, Kirwan JJ, Brinton GS, Golnik KC, Melendez RF, Parke DW 2nd, *et al.* Perceptions of recent ophthalmology residency graduates regarding preparation for practice. *Ophthalmology* 2007;114:387-91.
3. Thomas R, Dogra M. An evaluation of medical college departments of ophthalmology in India and change following provision of modern instrumentation and training. *Indian J Ophthalmol* 2008;56:9-16.
4. Murthy GV, Gupta SK, Bachani D, Sanga L, John N, Tewari HK. Status of speciality training in ophthalmology in India. *Indian J Ophthalmol* 2005;53:135-42.