

Editorial

In this issue of India Perspectives, the first one of 2010, we bring to our readers an unusual blend of articles that reflect not just India's magnificent cultural heritage but also its growing technological sophistication.

Between the cultural and the technological. It is part of our on-going series to profile some of India's finest academic institutions and leads us to the quartet of articles on science and technology. The two on tele-medicine and on stem cells research explore the quest for cutting-edge technology for delivery of high quality and affordable health care, while the ones on



A unique experiment in
Tele-Medicine _____ 70



India Perspectives is the Official Magazine of the Ministry of External Affairs, Government of India which showcases people, events and programs that have contributed to the progress of our country in different fields and serve as unique role models to others.

The journal is published in 17 languages and is distributed to over 60 countries through the Government of India periodically.

Narayana Nethralaya's Tele-ROP program was featured by the Min. of External Affairs in this Jan-Feb 2010 issue (Page 70), as a "unique and successful model of delivering cutting edge technology in health care" to rural India.

A unique experiment in Tele-Medicine

Tele-Ophthalmology provides a new hope in preventing infant blindness in rural India.

As of today, Retinopathy of Prematurity (ROP) is the leading cause of infant blindness. According to the WHO, middle-income countries such as India are believed to be in the midst of 'the third epidemic' of ROP.

The figures speak for themselves. Over 27 million live births are recorded in India annually and over 8.4% of these are low weight births below 2000 grams. Upto 47% of these low weight births and premature babies share the deadly risk factors of potentially blinding ROP. Upto 15% of these may require treatment. With less than 300 retinal surgeons and less than 20 pediatric retinal surgeons

in the country, screening (and treating) these babies especially in the non-urban setting, is an unmet challenge.

To address this issue, Narayana Nethralaya Postgraduate Institute of Ophthalmology, a leading tertiary eye care provider situated in Bangalore, has undertaken a unique experiment in Tele-Ophthalmology over two years ago called "KIDROP" (Karnataka State Internet Assisted Diagnosis of ROP).

Under the leadership of Dr Anand Vinekar, who heads the Institute's Pediatric Retina department, trained technicians armed with a portable wide-field digital pediatric retinal camera (Retcam Shuttle), travel



over 7 districts of Southern Karnataka to image these premature infants, and store, process and analyze these images. Using an indigenously developed web based Tele-ROP platform, the technicians were matched with ROP experts situated elsewhere validating a unique model which has obviated the need for the physical presence of experts in the rural areas.

Thus far, over 2100 infants from over 20 neonatal care centres, covering a radius of 350 kilometers have been screened. Of these, over 230 have undergone sight saving (laser) treatment without having

to shift the baby to the city. Over 80% of this has been done entirely free or at subsidized costs. Recently, the National Rural Health Mission (NRHM) has extended support to this project to include six more districts in Northern Karnataka.

Since 2009, with the help of an indigenous company, i2i Tele-Solutions, the images acquired in rural areas are now being received on a specially designed software application on the Apple iPhone. The specialist can now provide live diagnosis and a report using the GSM network further reducing the dependence on the variable speed of the internet.

"We are in the process of expansion. Some other states in India as well as a few countries in South-East Asia and Africa have evinced keen interest in our model", said Dr Anand Vinekar.

With increasing neonatal survival, rural and semi-urban infants are as much at risk as their city based counterparts of developing ROP. At this point in time, Tele-ROP seems to offer the best option to meet the standard of care for these tiny and precious citizens.

◆ Based on inputs provided by Narayana Nethralaya Postgraduate Institute of Ophthalmology, Bangalore.

