Dear Readers,

Another 3 months of 2014 have passed. We have come through our general elections, the formation of a new government and now many of us are following the FIFA World Cup with great interest!

It has been a relatively quiet though busy time for the research domain. The deadlines for submission for both Leprosy Research Initiative and WHO TDR were around the end of April, and many of us were engaged with perfecting and fine tuning our submissions and grant applications. We had two sessions for research facilitation one at TLM Naini Hospital, where a small but dedicated group persevere faithfully in their research activities. A meeting was also held in Madras with staff from the Sustainable Livelihoods domain, to integrate research into three new community projects. It was a great boost to see how excited and enthusiastic the field staff is to be involved in research.

In this issue we have an encouraging message from Piet Both, Specialist Advisor for TLMI, who has been with TLM for many years. Dr. Jerry Joshua writes about the importance of clinicians, however busy, being involved in research and how it enriches science. We have two interesting abstracts to stimulate our brains, and also sadly the obituary of Dr. Salafia. Many of us who were at the IAL in Chandigarh February, were shocked to hear of his passing, as he was so gay and full of life at the conference. Another important meeting in which TLMTI participated was organised by Dr. V.M. Katoch, Director General of ICMR, to discuss a strategy to combat the emerging drug resistance to MDT. TLMTI hospitals which comprise one of the sentinel sites in India had flagged this issue in published papers. A brief report about the meeting is presented in this issue.

I end with a request for articles, feedback suggestions to make our newsletter more interesting and enjoyable.

Best wishes and Happy Reading!

Annamma S. John
Editor & Head (Research & Training)

‘Out of India’

As a guest in the Research Newsletter, and as a friend and colleague in the Mission (TLM Global Fellowship) I put this title on top: ‘Out of India’. Isn’t India the place where all the good things come from? The Mission, a great fellowship, started there. Generations of colleagues have been engaged in that challenge and commitment of Wellesley Bailey: ‘if there was ever a Christ-like work in the world it was to go amongst these poor sufferers and bring them the consolation of the gospel’. 145 years ago! And ever since the Mission started in India, TLM India has kept the lead and has been an example in research too. ‘Out of India’: you have a lot to share with others and ‘the rest of TLM’.

Last year Geoff Warne asked me to finish the job, to edit the ‘TLM Global Fellowship Strategy for Research’. It had started with him and Paul Saunderson and members of the TLM International Research Committee. I have never been trained in research, but I have always appreciated very much the research carried out by TLM India, TLM Bangladesh and TLM Nepal. The value of that research, through the years (and in the years before I joined TLM), has contributed to the dignity of the Mission and its employees like myself. Not to be proud about, as if we have achieved this ourselves, but it has been a good gift to the Mission and to us all. The strategy for the years 2014-2018 has been approved by the TLMI Board in April this year.

In the ‘TLM Global Fellowship strategy for research’ you can read:
‘to summarise, TLM is committed to creating a stronger research culture and to the application and promulgation of research findings’.

Everything can always be done better or become stronger and therefore research can become stronger in India too, and in Bangladesh and in Nepal, but the document does refer to the strong research culture in the three countries. We hope that the strategy will help us to make a stronger research culture in all of TLM. One of the challenges will
be: ‘Out of India’, what will India be able to contribute to the other parts of TLM to be able to achieve the aims of the strategy.

One of the targets will be ‘the inclusion of a research component in increasing numbers of TLM projects (60% of all projects should have a clearly defined research component by 2018)’.

Research is sometimes done without it leading to good papers. Papers are often published without practical consequences. And that is part of research: not all single research projects change the world or the life of people affected by leprosy. The strategy encourages us to develop the papers and to consider how the research can be applied, make a difference for persons and communities.

Naturally, a strategy talks about priorities and key outcomes. You can read it all. It’s not a strategy focussed on projects and outcome only. It is also about building capacity of TLM staff ‘to engage in a variety of locally appropriate ways’. I very much hope that persons affected by leprosy will grow in capacity too to engage in research. So, this is about us. And you will not be surprised that I hope that ‘Out of India’, you will be able to contribute. Contribute to others and you will not be surprised that I hope that ‘Out of India’, you will be able to contribute. Contribute to others and you will be able to contribute. Contribute to others and you will be able to contribute.

With much appreciation and respect for your work,

Dr Piet Both
Member of TLM team

1 Available at TLM Connect or at request from Dr Annamma John

REPORT ON THE MEETING ON DRUG RESISTANCE IN LEPROSY
Held at ICMR on June 5th 2014

The Director General ICMR shared his concern about the cases of rifampicin resistance which are coming up in India. He said that reports of rifampicin resistance cases in leprosy have been noted very recently from different parts of the world. Reports are also coming from India and recently quite a few number of rifampicin resistant cases have been reported from the hospitals of Leprosy Mission and SSKM Hospital of Kolkata. The emergence drug resistance to rifampicin is a serious concern at this crucial juncture of elimination, which has been attained by the implementation of MDT over 2 decades. However, active transmission of the disease is still going on in endemic regions in India. Therefore, it is of utmost importance at this stage to build up strategies to look for such cases as early as possible and manage with second line drugs.

The Dy. Director General (Leprosy) Dr CM Agarwal requested that all laboratories and centres detecting resistance should submit the report of resistance cases to the Central Leprosy Division.

Dr Mallika Lavania from TLM presented the data of drug resistance from TLM hospitals. 82 relapsed leprosy cases (clinically and histopathologically determined) were reported by 12 TLM hospitals across India in 2013. Out of these, of these 53 skin scraping samples, were collected and sent to SBL for determination of molecular basis of drug resistance in leprosy. Laboratory methods involved Polymerase chain reaction (PCR) based amplification of Dapsone, rifampicin and fluoroquinolones targeting genes in Mycobacterium leprae genome followed by DNA sequencing to determine mutations that confer drug resistance.

9 cases with Dapsone resistance, 9 cases with fluoroquinolones resistance and 10 cases with rifampicin resistance have been are identified at the TLM Hospitals across India. Rifampicin resistance was identified for the first time at TLM hospitals in India. Molecular basis of drug resistance is determined through presence of point mutations within the drug resistance determining regions of M.leprae genome. SBL has identified a novel mutation causing amino acid substitution at position 442 in RNA polymerase protein which is responsible for rifampicin resistance. The functional effects of this mutation in conferring rifampicin resistance is being studied using bioinformatics tools and in collaboration with Dr Punit Kaur, Department of Biophysics, All India Institute of Medical Sciences.

All members attending the meeting suggested development of collaborative studies on molecular aspects of drug resistance in leprosy. Dr Katoch named this forum as Clinico epidemiological forum.

Two groups were made for the different aspects of
Clinical Work and Research

People involved in clinical work are constantly busy with patients. It is no surprise therefore, that when asked to come up with research papers, they are irritated, as they see themselves primarily as people serving the sick and not as researchers. To them researchers are those who work in laboratories or those who collect data for the express purpose of coming to conclusions through submission of that data for statistical analysis.

People involved in clinical work do not think of themselves as the data gathering type, but as those struggling with problems on the ground: as doers and not as analysers! But in the course of their work, they do not realise that they actually are generating a large amount of data which will help them do their work a lot better if that data were submitted for analysis.

For example, in the last decade in USA, it was believed that anyone who had a TURP (Trans Urethral resection of the prostate) had a 50% chance of developing some degree of incontinence. This seemed acceptable. Till one patient found that if he had his surgery in Germany, he had only a 30% chance of developing incontinence. There was some difference in technique which was producing this big difference in post operative complications. This would not have been possible to infer, if data had not been submitted for analysis in both countries. In other words, this would not have been known if research had not been a way of life. In other words, this would not have been known, if data were not routinely analysed and someone, (a patient in this case) had not compared them.

So whether a clinician likes it or not, he or she generates data. This data is available for anyone to collect, interpret and infer. That someone who does the collection and analysis is the one who is credited with the findings. That someone should be you, the clinician!

Dr. Jerry Joshua
Head, Health Programmes

Two Interesting Papers

Indeterminate leprosy and lepromatous index case: four cases in the same family*

Vanessa Priscilla Martins da Silva, Heloisa Helena Ramos Fonseca, Mariana Mazochi Sens, and Alvaro Thadeu Bender

Abstract

Leprosy is a chronic infectious disease caused by Mycobacterium leprae, which primarily affects the skin and peripheral nerves. Brazil remains as the country with the second largest number of cases in the world. We report the case of three patients diagnosed with indeterminate leprosy in the same family. Two patients were HIV positive. An active search led to the discovery of the index case. It was crucial to persist in the search of the index case. This report shows how important it is to teach physicians and the general population about the signs and symptoms of leprosy. Early diagnosis and treatment are necessary to prevent sequelae and to eliminate the disease as a public health problem.


Spatial Analysis Spotlighting Early Childhood Leprosy Transmission in a Hyperendemic Municipality of the Brazilian Amazon Region

Josafá Gonçalves Barreto, Donal Bisanzio, Layana de Souza Guimarães, John Stewart Spencer, Gonzalo M. Vazquez-Prokopec, Uriel Kitron, and Claudio Guedes Salgado

Abstract

More than 2,00,000 new cases of leprosy were reported by 105 countries in 2011. The disease is a public health problem in Brazil, particularly within high-burden pockets in the Amazon region where leprosy is hyperendemic among children.

We applied geographic information systems and spatial analysis to determine the spatio-temporal pattern of leprosy
cases in a hyperendemic municipality of the Brazilian Amazon region (Castanhal). Moreover, we performed active surveillance to collect clinical, epidemiological and serological data of the household contacts of people affected by leprosy and school children in the general population. The occurrence of subclinical infection and overt disease among the evaluated individuals was correlated with the spatio-temporal pattern of leprosy.

The pattern of leprosy cases showed significant spatio-temporal heterogeneity (p < 0.01). Considering 499 mapped cases, we found spatial clusters of high and low detection rates and spatial autocorrelation of individual cases at fine spatio-temporal scales. The relative risk of contracting leprosy in one specific cluster with a high detection rate is almost four times the risk in the areas of low detection rate (RR = 3.86; 95% CI = 2.26–6.59; p < 0.0001). Eight new cases were detected among 302 evaluated household contacts: two living in areas of clusters of high detection rate and six in hyperendemic census tracts. Of 188 examined students, 134 (71.3%) lived in hyperendemic areas, 120 (63.8%) were dwelling less than 100 meters of at least one reported leprosy case, 125 (66.5%) showed immunological evidence (positive anti-PGL-I IgM titer) of subclinical infection, and 9 (4.8%) were diagnosed with leprosy (8 within 200 meters of a case living in the same area).

Spatial analysis provided a better understanding of the high rate of early childhood leprosy transmission in this region. These findings can be applied to guide leprosy control programs to target intervention to high risk areas.


Dr. Antonio Salafia was a rare breed of doctor. He was a dermatologist and a surgeon, having qualified himself in both disciplines. Dr. Salafia was born on March 10, 1941 in Syracuse, on the island of Sicily, off the coast of Italy. Initially a priest in Naples, he came to India in 1971 and after graduating from St. Johns’ Medical College in Bangalore, he worked in Mumbai at the Vimala Dermatological Centre, dedicating himself to the service of people affected by leprosy. He was a qualified hand surgeon and a micro-surgeon in addition to being a dermatologist (training for both of which he acquired in Rome) and this enabled him to care for people affected by leprosy in a comprehensive manner. He expired on April 25, 2014, suffering a cardiac arrest while examining a patient at the clinic.

He will be remembered for his contributions to nerve decompression surgery and for his efforts to mobilise stiff hands, challenges that many surgeons find daunting and shy away from. These challenges often sucked him into controversies with more conservative surgeons, but Dr. Salafia was firm in his beliefs and backed up his convictions with data he had collected.

He is sorely missed by the fraternity of hand surgeons, dermatologists and leprologists.

Dr. Jerry Joshua
Head, Health Programmes